A STUDY TO ASSESS THE EFFECTIVENESS OF POVIDONE-IODINE SITZ BATH VERSUS LAVENDER OIL SITZ BATH ON EPISIOTOMY PAIN AND WOUND HEALING AMONG POSTNATAL MOTHERS UNDERGONE VAGINAL DELIVERY IN TERTIARY CARE SETTINGS, COIMBATORE

By

ANITHA.P

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Approved by the dissertation committee on: 30.08.2017

Signature of the Clinical Specialty Guide

……..
PROF. SREERENJINI.B, M.Sc (N).,
Professor & HOD,
Department of Obstetrics and Gynaecological Nursing,
PSG College of Nursing,
Peelamedu,
Coimbatore-641004.

Signature of the Medical Guide

……..
Dr. SEETHA PANIKER, DGO, MD, DNB.,
Professor & HOD,
Department of Obstetrics and Gynaecology,
PSG Hospitals,
Peelamedu,
Coimbatore-641004.

Signature of the Principal

……..
Prof. Dr. A. JAYA SUDHA, M.Sc (N), Ph.D.,
Principal,
PSG College of Nursing,
Peelamedu,
Coimbatore-641004.

Signature of the Internal Examiner
Date:

Signature of the External Examiner
Date:

CERTIFICATE

Certified that **A STUDY TO ASSESS THE EFFECTIVENESS OF POVIDONE-IODINE SITZ BATH VERSUS LAVENDER OIL SITZ BATH ON EPISIOTOMY PAIN AND WOUND HEALING AMONG POSTNATAL MOTHERS UNDERGONE VAGINAL DELIVERY IN TERTIARY CARE SETTINGS, COIMBATORE** is the bonafide work of **ANITHA.P,** PSG College of Nursing, Coimbatore, and submitted in partial fulfillment of requirement of the degree of Master of Science in Nursing to **The Tamil Nadu Dr. M.G.R Medical University**, Chennai under the register number 301620801.

College Seal

Signature of the Principal

……..
Prof. Dr. A. Jaya Sudha, M.Sc (N), P.hD.,
Principal,
PSG College of Nursing,
Peelamedu,
Coimbatore-641004

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‘‘I will praise you, lord, with all my heart.,
I will tell of all your wonders’’

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ABSTRACT

A study to assess the effectiveness of Povidone-Iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers admitted in tertiary care setting, Coimbatore.

Background of the study: Motherhood is a beautiful process, Where by mothers safely delivers a child. It is the magic of creation. During child birth, the women may sustain some degree of perineal trauma due to perineal tear or surgical incision called episiotomy.The care of episiotomy is an important aspect of postnatal care. One of the suggested methods is a regular antiseptic sitzbath. Nowadays, using alternative and complimentary therapies such as Lavender oil in aromatherapy have been recognized in obstetrics. It has antibacterial, antifungal, sedative, antidepressant and healing properties. One of the main action of these oils are easy absorption through the skin. However, definitive effects of these methods have not been verified through clinical trials, and more extensive studies are still required in this area.

Objective: The main objective of the study was to assess the effectiveness of Povidone-Iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing and thereby improving their physical wellbeing.

Methods: The research design adopted was Quasi experimental, time series design. Totally 50 postnatal mothers were selected by purposive sampling method. In this experimental group I consisted of 25 postnatal mothers receiving Povidone-Iodine sitzbath and experimental group II consisted of 25 postnatal mothers receiving Lavender oil sitzbath. The study was conducted in postnatal ward, PSG Hospital. Those who were fulfilled the inclusion criteria were selected for this study. The socio demographic and obstetrical profiles were collected through face to face interview and from records. The episiotomy pain was assessed during walking, sitting, changing position, urination and defecation through Numerical pain rating scale and wound healing was assessed through REEDA scale. Pretest was assessed after 2hrs of vaginal delivery with episiotomy and interventions sitzbath given to the both group in morning and evening for 20 minutes duration with 12 hours interval till discharge by using Povidone-Iodine solution and Lavender oil solution. Then the posttest was assessed after 24hrs, 48hrs and 72hrs.

Result of the study: Effectiveness of Povidone-Iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing results showed that the overall mean with SD (4.5420 ± 0.4163, 5.30 ± 0.76) is in experimental group II which is lesser than the mean with SD of (5.5700 ± 0.4524, 6.48 ± 0.84) experimental group I. Thus the results showed that Lavender oil sitzbath is effective to reduce the episiotomy pain and promote wound healing when compared to Povidone-Iodine sitzbath. Whereas in correlation between the posttest of episiotomy pain and wound healing in experimental group I ($r=0.41$) and group II ($r=0.5416$). It reveals that there is positive and moderate correlation. There was no significant association between the pretest level of episiotomy pain and wound healing with their selected demographic variables among postnatal mothers in both experimental group I and II.

Conclusion: The study concludes Lavender oil sitzbath is effective in episiotomy wound healing and reduction in pain perception compared to Povidone-Iodine sitzbath.

Key words: Episiotomy pain, episiotomy wound healing, Povidone-Iodine sitzbath, Lavender oil sitzbath, postnatal mothers.

CHAPTER-I

INTRODUCTION

1.1 Background of the study

"Birthing is the most profound initiation to spirituality a woman can have"

(Robin Lim)

Pregnancy and child birth are special events in women's lives. Birthing is normal, the moment of birth is both joyous and beautiful. The physiological transition from pregnancy to motherhood heralds an enormous change in woman, physically and psychologically. Accompanying the physical changes are feeling of great intensity varying from excited anticipation, to fearful expectancy **(Kat E., 2006)**

Child birth through vaginal mode seems to be the safest mode for the majority of women. The perineum is a very important part of a woman's body and it plays a special role during child birth. Perineum is the area of skin and muscle found between the vagina and anus. During child birth, the perineum stretches to allow the baby's head through.

During a normal vaginal birth, the fetal head exerts significant pressure on the tissues of the perineum and vaginal vault. Some women seem to have tissue that tears easily, even with a small baby and apparently easy birth, others will give birth over intact perineum, inspite of large babies or unusual presentations **(Judith Kurokawa., 2000).**

During childbirth, the women may sustain some degree of perineal trauma due to perineal tear or surgical incision called episiotomy. Episiotomy is performed on millions of women every year. Episiotomy is the most common perineal incision in obstetrics and midwifery. It was first used in normal deliveries in 1742. However, it did not become common until the early 1900's when the shift from home to hospital delivery. The popularity of episiotomy among obstetricians continued to grow with the introduction of anesthetic and suture material and as a result of advocacy for its performance by two obstetricians, Delec and Pomerocy **(Maior., 1997)**

The rationale for episiotomy use depends largely on the need to minimize the risk of severe spontaneous, maternal trauma and to speed up delivery, and to minimize fetal distress. **(Carroli Belizen and Stamp., 1999)**

The routine use of episiotomy decreases the risk of moderate anterior perineal laceration, and reduces the chance of perineal tears. **(Panel et al., 2007)**

The incidence of episiotomy is increased in the following circumstances primiparity, Asian women, forceps and vacuum deliveries **(Murphy, Maureen., 2007)**

The outcome of episiotomy is found that delayed wound healing due to wound separation or clinical infection **(Mary McGuiness and Kathleen., 2005)**

Episiotomy is commonly performed in USA to prevent obstetric perineal lacerations. **(Leveno KJ, Bloom SL, et al., 2005)**

The routine use of episiotomy harmful to the pelvic floor, that creates greater extent of surgical incision and delayed perineal wound healing, compared with no episiotomy group. **(Kathleen and Karla., 2005)**

Continuous improvement in quality of care after episiotomy could helps to controls the infection and improves episiotomy wound healing **(Faruel F H and Ventlttelli F., 2007)**

The care of episiotomy is an important aspect of postnatal care. Studies suggest that using episiotomy in normal delivery results in fewer perineal laceration and trauma. Wound healing is complex and requires safe and effective treatment modalities. Attention should be afforded to episiotomy wound care since it parallels any other wound. One of the suggested methods is a regular antiseptic sitzbath. **(Lowdermilk D L, Perry SHE., 2003)**

The application of water externally to the body for therapeutic effect is practice called Hydrotherapy or water therapy. One of the most popular methods of using hydrotherapy is the sitz bath originating in Germany; a sitzbath is natural method of soaking in very warm water. Doing this repeatedly is said to stimulate the lymphatic system, increase circulation and remove toxins. **(Mc Guinas., 2004)**

Sitzbath is the form of water bath, which is coming back into popularity as a low risk. Sitzbath term comes from the German verbs ‘sitzen’ meaning to ‘sit’. The sitzbath is a European tradition in which only the pelvis and abdominal area are placed in the water. It helps for women after child birth whether or not had an episiotomy.

Povidone-Iodine is an antiseptic that is widely used in Iran for surgical and skin wounds. All midwives and obstetricians apply Betadine for postpartum care. To date no study about Betadine and its side effects in Iran. In a study that compared the effectiveness of Betadine and waters, no significant difference was found between the two groups in wound healing. **(Zahrani Sh Tork., 2002)**

Various studies have provided evidence that Povidone-Iodine does not promote wound healing, and even impair wound healing, reduce wound strength or cause skin reactions. Cooper et al. showed that povidone-iodine with a dose dependent manner can suppress function of fibroblasts and lymphocytes. **(Cooper M L, Laxer J A., 1991)**

Nowadays, using alternative and complementary therapies such as essential oils in aromatherapy have been recognized in obstetrics. Aromatherapy used healing effects of volatile essential oils on the body in different ways. **(Burns E, Blamey C., 2000)**

Pharmacological impacts of each essential oil differ regarding to their chemical composition, principal constituents, country of origin and method of extraction. Mechanism of action of each essential oil is related to its complex active substances. One of the means of action is the aroma of these oils sent as a signal to the olfactory bulb which has close anatomical ties to the limbic system. The limbic system is the emotional center of the brain, where all major emotional expressions are generated. The limbic system influences the endocrine and the autonomic nervous system. Another mechanism is absorption through the skin. The molecules of essential oils and carrier oils are small enough to permeate through the skin barrier. Skin absorption can be via massage, bath, foot bath and hot or cold compresses. The molecules will be absorbed easily into the skin within 20 to 40 minutes depending on the chemical nature of the oil. **(Habanananda T., 2004)**

Lavandula stoechas (Lamiaceae) or Lavender is one of the plants with aromatic leaves and attractive bracts at the top of flowers. It grows in western Mediterranean countries, the Atlantic islands, Turkey, Pakistan and India. **(Staicov V, Chingova B., 1969)**

The flowers, and the essential oil derived from them are antibacterial, antifungal, sedative, anti-depressive and effective for burns and insect bites. Lavender has carminative (smooth muscle relaxing), anti-flatulence and anti-colic properties in aromatherapy. **(Lis-Balchin M, Hart S., 1999)**

In traditional medicine, L. stoechas has been used as carminative and antispasmodic for a long time. Lavender inhibits potassium induced contractions in a dose dependent manner like Channel blockers such as Verapamil. **(Adam K, Sivropoulou A., 2000)**

Alpha-terpineol and terpinen-4-ol and camphor are the chemical constituents of Lavender essential oil that have antibacterial effects. Alpha-pinene, beta-pinene and p-cymene are other substances that have antifungal activity. Carvacrol, terpinen-4-ol, linalool, sabinene, a-terpinene, and g-terpinene which are in Lavendula Stoechas are effective in some Gram-negative and Gram-positive bacteria and three pathogenic fungi. b-pinene (39.7%), a-pinene (10.9%) and camphor (9.7%) were the main components of Salvia tomentosa (Miller) oil which are antioxidant and antimicrobial. Antibacterial activity of P-cymene, cryptone or thymol has been suggested as the most potent inhibitor of Pseudomonas aeruginosa growth. **(Cimanga K and Kambu K., 2002)**

The use of lavender oil for perineal healing was first investigated by Dale and Cornwell in 1994 and has not been replicated to date. They conducted a clinical trial on 635 women using lavender oil and placebo following normal vaginal delivery for perineal healing. In this study mean discomfort score was lower in women using lavender oil with no significant side effects reported. This study aims to assess the effects of Lavender oil and Povidone-Iodine sitzbath on episiotomy pain and wound healing. **(Cornwell S and Dale A., 1995)**

1.2 Need for the study

The postnatal period refers to 6 weeks period after childbirth. The period is popularly termed the fourth trimester of pregnancy. It comprises an amazing variety of complex physiologic and psychological adaptations. The physical care of a women receives during the postnatal period can influence her health for the rest of her life. The nurse's role is vital as she assists the mothers through these adjustments and supports them as they make a fresh start as a new family. Postnatal women are more prone for puerperal infection as a result of episiotomy which can be prevented by proper postnatal care.

In India the incidence of episiotomy is also very high (70%) per thousands births (2016). Pain following episiotomy appears to be universal. The mother who is undergone episiotomy is characterized by greater blood loss in conjugation with delivery, and there is a risk of improper wound healing and increased pain during early puerperium.

Episiotomy is just one of the practices that contributes to the supposed " harm of vaginal birth" as more women in developing countries deliver their babies in hospitals. Episiotomy can be associated with extension or tear into the muscle of the rectum or even the rectum itself and may also lead to infection, bleeding, swelling, defects in wound closure, local pain and a short term possibility of sexual dysfunction.

Episiotomy pain often interferes with basic daily activities for the woman such as walking, sitting, passing urine and defecating and also negatively impacts on motherhood experiences.

Seven randomized controlled trials of liberal versus restrictive use of episiotomy assessed pain outcome. The most common primary outcome was perineal status after the birth. All seven studies reported incidences of episiotomy in liberal use and in restrictive it was third and fourth degree lacerations or extensions. The most common secondary outcome was pain in the days immediately after the birth. In the two groups used Numerical pain scale to assess the pain and classified responses into categories of mild, moderate or severe. Orally they have reported the composite score of the 0-10 item scale. Thus pain assessment is very important contributor for professionals especially midwives, as traditionally they are left to manage the episiotomy wound.

The world health organization has taken a clear stand against routine episiotomy. The episiotomy infections are preventable and can be reduced by practicing clean delivery and effective postnatal care. Midwives have an important role in the care of episiotomy wound after child births (WHO statistics, 2007)

There are several common methods used for reducing pain and accelerating the episiotomy-healing process. Nonsteroidal anti-inflammatory drugs are among the typical medications used to reduce episiotomy pain, though they may cause some side effects such as peptic ulcers.

Sitzbath is a simple and cost effective and easy method of treating episiotomy wound. Sitzbath is the form of hydrotherapy to relieve discomfort and promote physical well being. Aua, Saxton, and Sue Markwell, (1998) stated that experimentally proved that sitzbath plays an important role in providing the thermal and mechanical effects and administering the curative treatment. The powerful thermic impressions transmitted inward and by the profound vascular impression made through the dilatation of the surface vessels, heat production, the oxidation of nitrogen, and metabolism are quickened under the influence of the elevated temperature of the water. The effect is to enhance the pelvic circulation and to reduce swelling tissues, itch and soothe sore vaginal tissues and helps in episiotomy healing. Medicated herbs and antiseptic solutions can also added in the sitzbath to reduce the growth of bacteria and enhance healing. As its takes less time.

Sitzbath is not a routine practice in our OG ward settings in spite of it being cost effective and less time consuming. During this procedure care giver can talk and communicate with the mothers which may reduce the fear and may relieve the pain and increases comfort, during the postnatal days. The postnatal mother can do this independently in the home settings when they get discharged from the hospitals following the delivery.

Betadine (Iodine) is also commonly used to prevent infection and help with healing of the episiotomy wound. However, various studies show that it has no significant effect on Microorganism-reduction. Many women find the current available methods unsatisfactory and are looking for other effective and safe options.

Nowadays using complementary therapies such as essential oils have been recognized in obstetrics. Lavender oil is one of the essential oil due to its antibacterial, antifungal, sedative, antidepressant and healing properties. One of the main action of these oils are easy absorption through the skin. So Lavender oil can be used in a sitzbath and it would also have the added benefit of decreasing anxiety which Povidone-Iodine does not.

Though there are many studies done in various methods of episiotomy healing, only a very few studies have been conducted to assess the effectiveness of Lavender oil sitzbath on episiotomy wound healing among postnatal mothers with episiotomy. Some studies have examined the effects of herbal remedies such as Lavender oil on episiotomy pain and healing. However, definitive effects of these methods have not been verified through clinical trials, and more extensive studies are still required in this area.

Aim of the study

To assess the effectiveness of Povidone-Iodine Sitzbath versus Lavender oil Sitzbath on episiotomy pain and wound healing and thereby improving their physical wellbeing.

1.3 Statement of the Problem

A comparative study to assess the effectiveness of Povidone-Iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery in tertiary care settings, Coimbatore.

1.4 Objectives

- To assess the episiotomy pain and wound healing among postnatal mothers.
- To evaluate the effectiveness of Povidone-Iodine Sitzbath on Episiotomy pain and wound healing. (Experimental group I)
- To evaluate the effectiveness of Lavender oil Sitzbath on Episiotomy pain and wound healing. (Experimental group II).
- To compare the effectiveness of Povidone-Iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers.
- To correlate episiotomy pain and wound healing after sitzbath among postnatal mothers.

- ❖ To find out the association between the pre test severity of episiotomy pain and wound healing among postnatal mothers with their selected demographic variables.

1.5 Assumption

a) Episiotomy wound produces pain and discomfort among postnatal mothers.
b) Presence of episiotomy wound may predispose to wound infection.
c) Alternative and complementary therapies aids in improving healing of episiotomy wound.
d) Lavender oil sitzbath is more effective in reducing episiotomy pain and promoting wound healing compared to Povidone-Iodine sitzbath.

1.6 Hypothesis

H_1: There will be a significant difference between the pre and post interventional level of episiotomy pain and wound healing among post natal mothers undergone vaginal delivery in Experimental group I and II.

H_2: There will be a significant difference between post interventional level of episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery in Experimental group I and II.

H_3: There will be a significant relationship between episiotomy pain and wound healing after sitzbath among postnatal mothers

H_4: There will be a significant association between pre test severity of episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery with selected demographic variables.

1.7 Delimitations

The study is delimited to the postnatal mothers who had normal vaginal delivery and instrumental delivery with episiotomy.

1.8 Operational Definition

Effectiveness:

The degree to which the level of episiotomy wound healing and pain is reduced after the Povidone-Iodine Sitzbath and Lavender oil Sitzbath. It is measured by REEDA Scale and Numerical pain rating Scale

Povidone-Iodine Sitzbath:

Povidone-Iodine Sitzbath is a bath in which perineal area/ buttocks are submerged in 4 litres of warm water having a temperature of 105^{o}F to 110^{0}F added with 5-6 drops of 10% of Povidone Iodine for a period of 20 minutes for three consecutive days during morning and evening to promote episiotomy wound healing and relieving pain.

Lavender oil Sitzbath:

Lavender oil Sitzbath is a bath in which perineal area / buttocks are submerged in 4 litres of warm water having a temperature of 105^{0}F to 110^{0}F added with 5-6 drops of commercially prepared Lavender oil for a period of 20 minutes for three consecutive days during morning and evening to promote episiotomy wound healing and relieving pain.

Episiotomy Pain:

Episiotomy pain is the pain experienced by the postnatal mothers due to interference with tissue integrity and presence of episiotomy suture line which is assessed by using the Numerical pain rating Scale.

Episiotomy Wound Healing:

Episiotomy wound healing indicates the degree to which the level of redness, edema, ecchymosis, discharge and gapping of episiotomy wound is reduced after sitzbath which is assessed by using REEDA scale.

Postnatal Mother:

Postnatal mother refers to the women in after 2 hours of vaginal delivery with episiotomy in PSG hospital, Coimbatore.

1.9 Projected Outcome:

Episiotomy wound healing and reduction of pain is faster in postnatal mothers with Lavender oil sitzbath compared to postnatal mothers with Povidone-Iodine sitzbath.

1.10 Conceptual Framework

Modified Lydia Halls Core, Care, Cure Theory (1975)

Lydia Hall's core, care, cure model introduced in the year 1975. Lydia Hall presented her theory of nursing visually by three interlocking circle. Each circle presenting a particular aspect of nursing care. Here the "core" refers to the person who is need of therapeutic nursing care. The core circle of the patient care involves the therapeutic use of self and is shared with other members of health team. Through this therapeutic relationship with patient helps the nurse to achieve goal. The "care" aspect represents the nurturing component of nursing. The nurse provides bodily care for the patient to complete basic biological function. And the "cure" the cure circle of patient care is based on pathological and therapeutic science. The nurse seeing the patient through the medical care aspects of nursing.

In this present study the investigator has modified Lydia halls theory of Core, Care, and Cure. Lydia Halls present her theory of nursing with three interlocking circles, each circle presenting particular aspects of nursing core, care and cure.

Core: Involves the 25 postnatal mothers with episiotomy in each experimental group I and experimental group II who met the inclusion criteria and who need the episiotomy care.

Care: Represents the nurturing components of nursing. It focuses on the five components like assessment, diagnosis, planning, implementation and evaluation.

Assessment: It is the observation of episiotomy pain and wound healing through Numerical pain rating scale and REEDA scale.

Diagnosis:

- Acute pain related to episiotomy as evidenced by facial expression
- Impaired skin integrity related to episiotomy wound as evidenced by sutures in the episiotomy site.

Planning: Here the investigator plans to have two groups, where one group will be provided Povidone-Iodine sitzbath and other group of postnatal mother with Lavender oil sitzbath applying nursing process.

Implementation: Povidone-Iodine sitzbath and Lavender Oil sitzbath is given every morning and evening for 20 minutes duration with 12 hours interval from the first postnatal day to till discharge.

Evaluation: It involves the outcome of the episiotomy pain and wound healing which was assessed through Numerical Pain Rating scale and REEDA scale in both the experimental group I and II whether the pain level will be reducing and wound healing is progressing.

Cure: Episiotomy pain reduction and wound healing is better in postnatal mothers with Lavender oil sitzbath compared to postnatal mothers with Povidone-Iodine sitzbath.

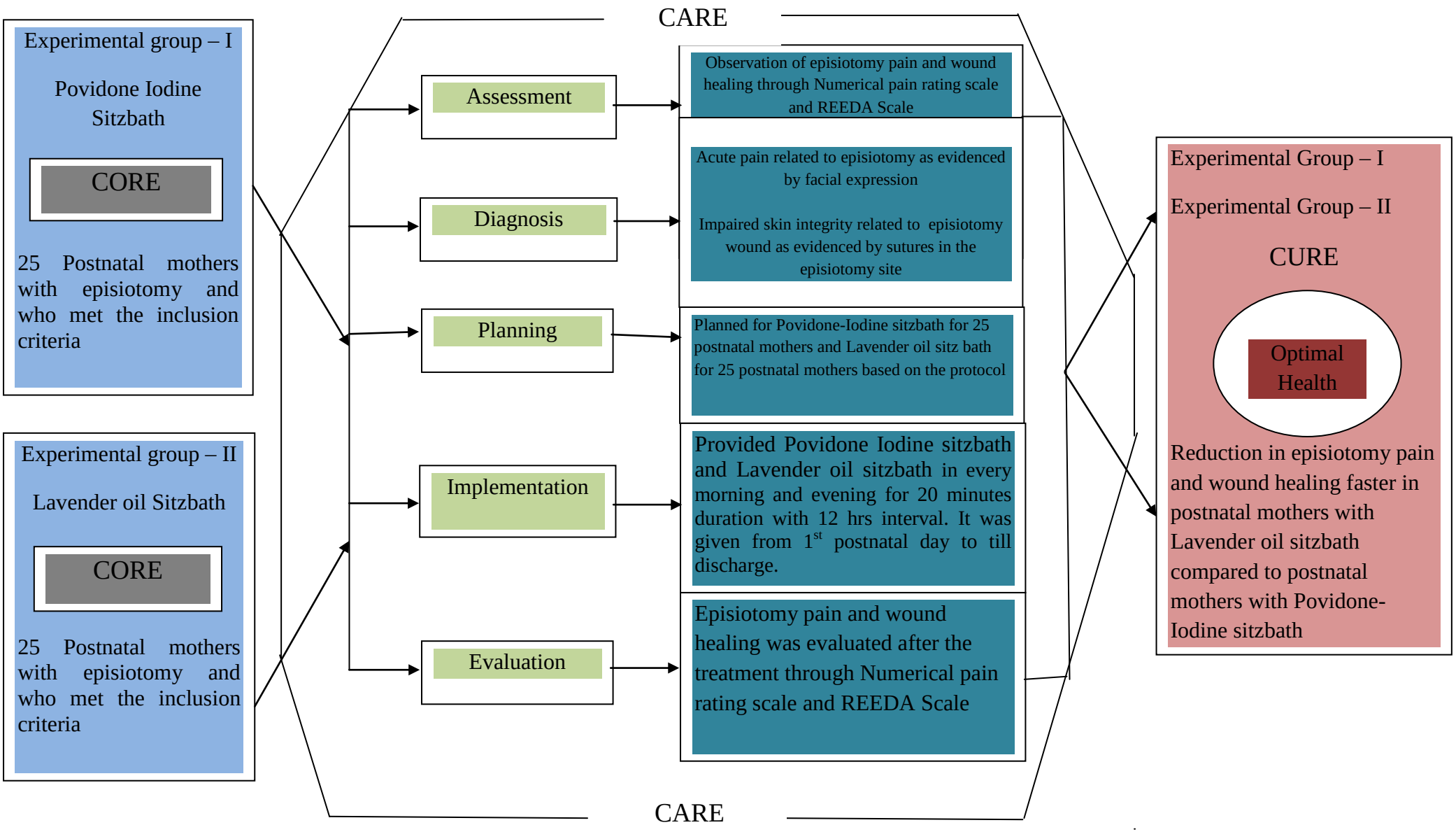

Fig 1.1 Modified Lydia Hall's Core, Care, Cure Model for Episiotomy Pain Reduction and Enhances Wound Healing

CHAPTER II

REVIEW OF LITERATURE

Review of literature is one of the most important steps in the research process. It is an account of what is already known about a particular phenomenon. The main purpose is to convey to the readers about the work already done and the knowledge and ideas that have been already established on a particular topic of research. It is an account of the previous efforts and achievements of scholars and researchers on a phenomenon.

The review of literature for this study is group in the following heading.

A. Evidence based episiotomy and its care
B. Studies related to episiotomy and its prevalence
C. Studies related to episiotomy wound healing
D. Studies related to effectiveness of Lavender oil sitzbath and Povidone-Iodine sitzbath on episiotomy wound healing
E. Studies related to episiotomy pain reduction

2.1. Evidence based episiotomy and its care:

Surgical incision of the perineum that is made both to prevent tearing of the perineum and to release pressure on the fetal head with birth, Mediolateral episiotomies have the advantages over midline cuts in that, if tearing occurs beyond the incision, it will be away from the rectum, creating less danger of complications from rectal mucosal tears. Anal sphincter tears can lead to fecal incontinence later in life. **(Adele Pillitteri., 2013)**

The inflammation is a defensive reaction intended to neutralize, control, or eliminate the offending agent and to prepare the site for repair. It is a nonspecific response (not dependent on a particular cause) that is meant to serve as protective function. **(Brunner, 2013)**

An incision into the perineum to enlarge the vaginal outlet is necessary, it is done at this time to minimize soft tissue damage. Types are median, mediolateral, lateral and j shape. Advantages for mother easy to repair and heals better than a lacerated wound, reduction in the

duration of 2nd stage, reduction of trauma to the pelvic floor muscle and for fetus minimize intracranial injuries. **(Donna L Wong, Shannon E., 2010)**

Episiotomy has four types of incision**.** In that mediolateral incision is made in downwards and outwards from the midpoint of the fourchette either to right 2.5 cm away from the anus. Median incision commences from the center of fourchette and extends posteriorly along the midline about 2.5cm. Lateral incision starts from about 1cm from centre of fourchette and extends laterally. J shaped the incision begins in the centre of fourchette and directed 1.5cm the directed downwards and outwards along 5 to 7 'o' clock position.**(DUTTA., 2014)**

Sitzbath is a hip bath used to soak a client's pelvic area. The client sits a special tub or chair and is usually immersed from the mid thighs to the iliac crests or umbilicus. Special tubs or chairs are preferred because when the legs are also immersed as in a regular bath tub, blood circulation to the perineum or pelvic area is decreased. Disposable sitzbath are also available. **(Kozier and Erb's., 2014)**

The pain induced by the treatment including surgery, chemotherapy and immunotherapy and also induced by the disease due to direct tumor involvement of bone, nerves, viscera or soft tissue.**(Lippincott., 2013)**

Mediators of inflammation are 1) histamine: stored in granules of basophils, mast cell and platelets 2) serotonin: stored in platelet, mast cells, enterochromaffin cells of GI tract.3) kinin (e.g. bradykinin) produced from precursor factor kininogen area result of cultivation of hageman factor (XII) of clotting system.4) complement components:(c3a,c4a,c5a) 5) anaphylactic agents genetrated from complement pathway activation. 6) Prostaglandin and Leukotrienes: produced from arachidonic acid.7) cytokines: for information on cytokines are interferon, interleukin 2, 11, erythpoitin, ill receptor antagonist.**(Lewis., 2014)**

As the perineum distends, an episiotomy may very occasionally be necessary. This is an incision through the perineal tissue which is designed to enlarge the vulval outlet during birth. As this is a surgical incision it cannot be undertaken unless the mothers given consent. A detailed discussion should take place during pregnancy so that each woman is aware of the indication for and implementation of the intervention. It involves incision of the fourchette, the superficial muscle and the skin of the perineum and posterior vaginal wall. Straight bladed blunt ended pair

of mayo scissors is used. Blades should be sharp. A single deliberate cut 4 to 5 cm long is made at the correct angle. Before that infiltration done lidocaine (0.5 or 1%). **(Myles., 2013)**

A surgically planned incision on the perineum and the posterior vaginal wall during the second stage of labour is called episiotomy or perineotomy. The time is bulging thinned perineum during contraction just prior to crowning is the ideal time. It made both to prevent tearing the perineum and to release pressure on the fetal head with birth. **(Marie Elizabeth., 2013)**

The interesting case of necrotizing fasciitis of the leg following emergency caesarian section in a known intravenous drug user. Postnatal day two she developed pain and swelling in the left leg. In view of her previous history, deep vein thrombosis (DVT) was the initial diagnosis. But, due to clinically worsening symptoms and no response to anticoagulation, further investigations were done which showed necrotizing fasciitis. Due to disease progression, a hip disarticulation was performed and the patient went on to full recovery. **(Rajeshwari J, et al., 2011)**

Hot application is the application of a hot agent, warmer than skin either in a moist or dry form on the surface of the body to relive pain and congestion, to provide warmth, to promote suppuration muscle tone and to soften the exudates. And cold application is the application of a cold agent cooler than skin either in a moist or dry form, on a the surface of the skin , to reduce pain and body temperature, to anaesthetize an area, to check haemorrhage, to control the growth of bacteria , to prevent gangrene, to prevent edema and reduce inflammation. **(Nancy SR., 2014)**

pain is an unpleasant, subject sensory and emotional experience associated with actual or potential issue, damaged or described in terms of such damage "whatever the person experiencing it says it is, existing whenever (he/she) says it does". **(Shebeer P Basheer., 2012)**

2.2. Studies related to episiotomy and its prevalence:

A cross sectional study was conducted to determine the prevalence, predictors, and outcomes of episiotomy among primigravida women in Enugu, Nigeria. Mann Whitney U-test (continuous data) and Chi-square test (categorical data) were used for data analysis. Prevalence of episiotomy in the study was 62.1% (411/662). The episiotomy rate for booked women (65.6%,

376/573) was significantly higher than that of unbooked women (39.3%, 35/89), (prevalence ratio = 1.67 [95% confidence interval: 1.28, 2.17]). The birth weights of babies delivered in the episiotomy group (median = 3.2 kg [Inter Quartile Range (IQR):2.9-3.5]) was statistically higher than those of women who did not receive episiotomy (median, 3.1 kg [IQR: 2.7-3.4]), (Z= 3.415, *P* = 0.001). **(EO Izuka, et al., 2014)**

A study was conducted to compare maternal and perinatal outcomes in women undergoing a protocol of not performing episiotomy versus selective episiotomy. An open label randomized clinical trial will be conducted. Women in experimental group will be not conducting episiotomy and women in control group will be with episiotomy. Analysis done by t test, Mann- Whitney U test, Pearson's test and risk ratios and their 95% confidence intervals will be calculated. The mean value of not performing episiotomy is 1.49 ± 0.67 and mean value of performing episiotomy is0.89 ± 0.53. So they concluded that not performing an episiotomy is effective than performing episiotomy. **(Ines Melo, et al., 2014)**

A prospective follow-up study conducted in Aydin Government on assessment of episiotomy. It shown that 1286.796 births occur annually and that nearly one-half (52.5%) of these births are vaginal births. Three hundred ninety-six primiparas were included in the study by convenience sampling. The total number of women in the study was 348 when calculated within a 95% confidence interval (CI; 0.05) with a *P* = 0.50, and a population size of 3720. Because of the restricted use of episiotomy in this study, *P* = 0.50 was taken in the calculation of sample size. Questionnaire method was used. Out of 396 primiparas who participated in this study,223 (56.3%) had episiotomy. Of the participants, 14 (3.5%) had an intact perineum, 159 (40.2%) had spontaneous lacerations, and 46 (11.6%) had episiotomy with spontaneous lacerations. The mean age of the women who had an episiotomy was 23.34 ± 3.67 years, the mean age of the women who did not receive an episiotomy was 22.48 ± 3.58 years, the difference was statistically significant (t = -0.020, *P* < 0.05). It was significantly lower than women who were legally married (3.6% *vs* 9.2% x^2 = 5.484, *P* < 0.05). **(Zekiye Karaçam, et al., 2013)**

2.3. Studies related to episiotomy wound healing:

A study was conducted to assess the effectiveness of hot application on episiotomy wound healing and pain among the postnatal mothers in Thanjavur. In this study interventions used is applying sitzbath with potassium permanganate. True experimental post test only design used for this study. A total of 60 postpartum women (experimental and control group each group consisted of 30 women) were recruited randomly for this study. Tools used for data collection consisted of interviewing sheet, the Numerical rating scale, the standardized REEDA scale and follow up sheet. Finally the analysis revealed that, in between wound healing (t = 13.8906) and in between pain (t = 15.9465) in experimental group and control group. Scores of 't' value had a significant difference at 0.05 level. Whereas in correlation between the post test levels of wound healing and pain reduction in experimental group, the 'r' value is 0.8 and in control group 'r' value is 0.4. It reveals that there is positive and moderate significant correlation between episiotomy wound healing and pain. Hence, it concluded that hot application was effective. **(Sharan S., 2015)**

A study was conducted to assess effectiveness of moist heat (Sitzbath) and dry heat (infra red light) application on healing of episiotomy wound. Healing of episiotomy is assessed with REEDA scale (30 dry heat and 30 moist heat). The result is in Group A, 15(50%) of the samples were aged 19-21 years, 7(23.3%) of them from 22-24 years, 7(23.3%) of them from 25-27 years and only one (3.3%) of them was beyond 27 years. In Group B, 16(53.3%) of the samples were aged 19-21 years, 11(36.7%) of them from 22-24 years and only one (3.3%) of them was beyond 27 years. **(Yashashri Pore., 2014)**

A study was conducted to evaluate the effectiveness of aloevera and Calendula ointment which was applied to both experimental group on episiotomy for healing for every 8 hours for 5 days. Totally 111 qualified primiparous women admitted in Lolagar hospital. They were randomly categorized into three groups of control (n=1) and experimental (n=2) groups. The data were collected by questionnaire and REED scale. In which investigated the episiotomy healing before and five days after intervention in two groups. ANOVA, Kruskal-wallis, Chi-square were used for data analysis. The three groups do not have statistically significant different regarding demographic and other intervening variables. Comparing the mean of REEDA in five days after

delivery showed statistically significant. The result is 0.98 with 0.89. **(Farideh Eghdampour, et al., 2013)**

A study was conducted to evaluate the effectiveness of Infrared rays on wound healing and pain level in the experimental group comparison with control group mothers. Quantitative approach and pre- test/ post- test control group design adopted and100 caesarean section mothers (50 experimental & 50 control group) by simple random sampling technique. Pre-test was done by Modified Southampton wound assessment scale and Numeric pain rating scale. Experimental group received infrared therapy whereas the control group received routine dressing for twice a day for 3 days. Evaluation done on 5^{th} & 7^{th} postoperative days with the same standard scales. Pre& post-test mean wound healing scores in the experimental group was 2.1 +_ 1.446 & 1.26 +_ 0.828 with 't' value 4.365($p<0.05$), Similarly the mean pain level scores was 3.90±0.303 & 1.94±0.424 with the 't' value 28.100 (p 0.05) and found statistically significant. There was a positive correlation between the wound healing and pain level score r = 0.22. **(Manju Bala, et al., 2013)**

2.4. Studies related to effectiveness of Lavender oil sitzbath on episiotomy wound healing:

A comparative study was conducted to assess the effectiveness of Povidone-Iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers undergone normal vaginal delivery in selected hospitals at Kanyakumari District. The samples of 60 postnatal mothers were selected by using non probability convenient sampling techniques. Pre test was done on first postnatal day by using Verbal Descriptive Pain Assessment scale and REEDA scale. Povidone-Iodine sitzbath was administered to experimental group I and Lavender oil sitzbath was administered to experimental group II with duration of 20 minutes in morning and evening for five days. The post test was done on fifth postnatal day for both experimental groups with Verbal Descriptive Pain Assessment scale and REEDA scale. Results revealed that majority of postnatal mothers were having no pain 18 (60%) in experimental group II compared to experimental group I 3 (10%) after giving sitzbath. Regarding episiotomy wound healing 25 (83.33%) mothers had moderate infection in experimental group II and in experimental group I 23 (76.67%) mothers had moderate infection. There was an significant association between posttest level of episiotomy pain and wound healing with demographic

variables. Hence, it concluded that Lavender oil sitzbath is effective in reducing episiotomy pain and promoting wound healing. **(Ragania D, Savitha G., 2016)**

A randomized clinical trial study was conducted to verify the effect of lavender oil in sitz bath and lavender soap on a postpartum mother's perineal healing. They were allocated to one of three groups-sitzbath group, soap application group or control group. Perineal healing status was measured using the REEDA scale and smears of episiotomy wound were obtained. The data analyzed by repeated measures of ANOVA, ANCOVA, chi2-test.Mean value of lavender oil 0.31 ± 0.33, for lavender soap 1.13 ± 0.55 and for control group 0.62 ±0.55. Finally concluded that lavender oil and lavender soap are effective in perineal healing. **(Taehan Kanho Hakhoe., 2014)**

The study was conducted to compare the effectiveness of infra red light therapy vs. sitzbath on episiotomy in terms of episiotomy wound healing among postnatal mothers conducted in Chandigarh. A sample of 60 was selected using purposive sampling; of these 30 postnatal mothers were treated with infra red light and remaining 30 postnatal mothers were treated with sitz bath. Data was collected using REEDA Scale. The mean value of infra red is 0.09 ± 0.26 and for sitz bath is 0.34 ± 0.48. There was no significant association found between episiotomy wound healing of the postnatal mothers treated with infra red light therapy and sitz bath and selected variables. **(Chand Sulakshana, et al., 2014)**

A study was conducted to assess the effectiveness of Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers in George Mission Hospitals, at Kanyakumari district. The study with 30 postnatal mothers in experimental and control group. The episiotomy wound healing and pain perception was assessed on the 1^{st}, 3^{rd}, 5^{th} postnatal day. The study concluded that Lavender oil sitzbath is effective with "t" value of 6.32 and p=0.05 on episiotomy pain and wound healing. **(Beulah., 2013)**

A study was conducted to assess the effectiveness of Lavender oil essence on reducing perineal discomfort following episiotomy among 60 qualified primiparous women admitted for labour. They were randomly categorized into 2 groups: case group using lavender oil and control group following hospital protocol. Pain and discomfort were recorded using Visual Analogue Scale and REEDA Scale. Pain was evaluated at 4^{th} hr, 12^{th} hr and 5^{th} day following episiotomy.

Collected data was analyzed using t-test and chi-square test. There was a statistical difference in pain scores after 4th hr (p=0.002) and 5th day (p=0.000) after episiotomy and REEDA score was significantly lower on 5 day after episiotomy (p=0.000). They concluded that use of Lavender oil can be effective in reducing perineal discomfort following episiotomy**. (Sheikhan F.Jahdi., 2012)**

A study was conducted by using Lavender oil and placebo effect for perineal wound healing among 635 women who had undergone normal vaginal delivery. The mean discomfort score was lower in women using Lavender oil. 31 individuals (51.7%) in the Lavender group and 13 individuals (21.7%) in the control group had no redness (p=0.001). The study concluded that "use of Lavender oil for perineal healing is effective". **(Bekhradi R., 2012)**

A comparative study was conducted to assess the effect of Lavender oil sitzbath versus Povidone iodine treatment on episiotomy wound healing among 120 primiparae women with singleton pregnancies who had received medio-lateral episiotomies during spontaneous vaginal deliveries. The samples were in 2 groups, 60 women with povidone iodine sitzbath. The Lavender oil sitzbath involves 5-7 drops of Lavender essential oil in 4 L of water for 10 days. The control group received povidone-Iodine antiseptic. On the 10th day after childbirth, the Lavender oil group had no pain (0.063), no redness was the most suitable therapy for episiotomy wound healing. **(Vakilian k, et al., 2011)**

A study was conducted to verify the Lavender cream effect on perineal pain and episiotomy wound healing among 100 primi parous women with episiotomy following a normal and spontaneous delivery at Moderre's hospital in Kashmir. The pain was assessed by VAS and wound healing by REEDA scale at first 24hrs, 3rd, 5th and 7th postpartum day. The data was analyzed with chi-square and t-test. The results showed that there was no significant differences in perineal pain at first 24hrs postpartum between two group (p=0.78), but perineal pain at 3rd (p=0.035), 5th (p=0.0) and 10th (p=0.04) days postpartum was less in experimental group. In wound healing there was no significant difference between two groups at 3rd day, 5th day and 10th day (p=0.0) there was significant difference found between two groups. The study concluded that topical application of Lavender cream was effective. **(Molkizadeh et al., 2010)**

An experimental study was conducted to determine the effectiveness of infrared therapy and povidone iodine sitzbath of episiotomy wound healing at Coimbatore in Tamil Nadu. 30 samples were randomly selected for the study, 15 each in two experimental groups. One experimental group was selected for infrared therapy and other for sitzbath for three days in the morning and in the evening. Results revealed that mother who had undergone the treatment of infrared therapy expressed decrease in pain intensity compared to mothers who had undergone the Povidone-Iodine sitzbath were found to have same effect in the episiotomy wound healing. **(Dhanalakshmi V., 2010)**

A quasi experimental study was conducted assess the effect of Povidone-Iodine sitzbath versus self perineal care on episiotomy wound healing. 40 postnatal mothers were selected. 20 postnatal mothers were given Povidone-Iodine sitzbath and 20 mothers were taken self perineal care. The findings denote that Povidone-Iodine sitzbath has significant influence in wound healing. The study revealed the REEDA score was significantly low (p=0.007) in the experimental group. The study concluded that Povidone-Iodine sitzbath is effective in episiotomy wound healing. **(Ralmer D, Roberts J., 2007)**

2.5. Studies related to episiotomy pain reduction:

A study was conducted to compare the impact of polyglactin 910 (1-0) (Vicryl rapide) (VR) and Chromic Catgut (1-0)(CC) sutures on perineal pain. Patients were divided randomly into two groups: VR group and CC group. Each group consisted of 50 patients. Pain was assessed by the visual analogue scale and analgesics. Ordinal data were analyzed by Mann-Whitney U-test. Categorical data were analyzed by Chi-square test. Result found that 523 out of 886 (59.02%) of women with vicryl rapide on episiotomy and 591out of 888 (66.5%) sutured with catgut .VR suture is associated with less pain perception compared to CC suture. **(Meena Samant et al., 2013)**

A study defined that the Postpartum follow-up results of the women (N=396) with episiotomy had significantly more frequent (85.2% vs. 53.2%; $P < 0.001$) and more severe perineal pain (the mean visual analogue scale score, 1.54 ± 0.93 vs. 0.82 ± 0.94; $P< 0.001$) on the first postpartum day. Problems with wound healing (31.4% vs12.4%; $P < 0.001$), and delays in wound healing (21.1% vs. 10.2%; $P < 0.01$) in the third postpartum week. The results of

univariate logistic regression analysis revealed that an episiotomy increased the probability of a frequent perineal pain approximately five times (OR, 5.07; 95% CI, 3.15-8.15) and severe perineal pain two times (OR, 2.26; 95% CI, 1.79-2.86) on the first postpartum day. In addition, an episiotomy increased the probability of a frequent perineal pain three times(OR, 3.12; 95% CI, 1.83-5.32), severe perineal pain two times (OR, 1.67; 95% CI,1.33-2.10), problems with wound healing three times (OR, 3.24; 95% CI, 1.80-5.85), and a delay in wound healing two times (OR, 2.35; 95% CI, 1.23-4.52) in the third postpartum week. **(Hatice Ekmen et al., 2013)**

A study conducted to establish the prevalence of perineal Pain, the effects of pain on post natal recovery in Royal's Women Hospital, Australia. Researchers conducted structured interviews of women in the postnatal ward of tertiary hospital, within 72 hours of vaginal birth. Results revealed that 90% of women reported some perineal pain, with 37% reporting moderate or severe pain. In walking (33%) or sitting (39%), while 45% noted that pain interfered with their ability to sleep. Mother feels pain occur during feeding (12%) caring (12%). The researchers suggested that the prevalence of perineal pain and the associated impact on women's from childbirth warrants midwives' proactive care in offering a range of effective pain relief are found to reduce episiotomy pain and enhance healing process, which include administration of analgesics, cleanliness, applying ice pack, topical application by dry heat (infra red therapy), sitz bath performance of kegel's exercise and perineal care. **(George S., 2013)**

The study was conducted to evaluate the effectiveness of therapeutic ultrasound and cooling maternal gel pads for perineal pain following vaginal delivery. Control (n-15) and interventional group (n-15) selected randomly. Outcome measured by Visual Analog Scale (VAS) and REEDA scale. The mean value of VAS before intervention was 6.7 ± 1.4 in control group and 7.2 ± 1.6 in experimental group. The mean value of VAS after intervention in control group was 5.8 ± 1.7 with p value 0.56 and 3.2 ± 1.3 in experimental group. There was statistically significant difference seen in pain score after 3 days of intervention in experimental group with p value 0.02.The mean value of redness was 1.63 ± 0.781, edema 1.38 ± 0.48, ecchymosis 0.78 ± 0.96, discharge 0.24 ± 0.31, approximation 1.47 ± 0.26 before intervention in control group and the mean value of redness 1.8 ± 0.71, edema 1.46 ± 0.56, ecchymosis 0.5 ± 0.83, discharge 0.3 ± 0.42 and approximation 1.61 ± 0.34 experimental group. There was no statistically significant difference in both group. **(Arati Mahishale, et al., 2013)**

A study conducted in Iran to assess the Application of Cooling devices is a new approach in pain relief but the pain related to episiotomy is typically treated with oral analgesic medications. This clinical trial involved 60 qualified primi women in Kamali Hospital Iran. They randomly allocated into two groups: cases (using Gel pads) and control (receiving the hospital routine). Participants are assessed by VAS and REEDA scales. Pain was evaluated 4, 12 hr and 5 days after episiotomy. The obtained data were analyzed in SPSS 14 using independent t-test and chi-square. The result are t =10.1234 and t =12.9549. This study application of cold gel pads effective instead of Betadine episiotomy wound care. **(Sheikhan F, et al., 2012)**

Another study was conducted to evaluate the effect of self perineal care instructions on episiotomy pain and wound healing of postpartum women. Design was used quasi experimental. A total of eighty postpartum women (experimental and control groups each group consisted of 40 women) were recruited randomly for this study. Tools used for data collection consisted of interviewing sheet, the numerical rating scale (NRS), the standardized REEDA Scale and follow up sheet. The study revealed that statistically significant. For 24 hours (t=5.353at p =0.000),(t=8.119 at p =0.000), (t=2.568 at p = 0.01), (t=9.884 at p = 0.0000),(t=2.223 at p= 0.03) respectively. At 7days after episiotomy in relation to redness, edema, and suture approximation (t=2.962at p = 0.005), (t=2.399 at p =0.02), (t=1.857 at p=0.07) respectively. (**Hoda Abed and Nahed Saied et al., 2012)**

A study was conducted to evaluate the effectiveness of an icepack applied for 20 minutes to alleviate perineal pain after spontaneous vaginal birth. We conducted a randomized controlled trial at the Amparo Maternal Birth Center, Brazil. Study participants included 114 nulliparous women divided into 3 groups (n = 38 per group): experimental (ice packs on the perineum), placebo (water packs at set temperature), and control (no treatment). A numerical scale (0 to 10) was used for pain assessment. A comparison of the average pain at the beginning and after 20 minutes showed a significant reduction of pain. The result mean value is 1.78 with 0.89, 0.09 with 1.01 and 0.34 with 0.96. **(Maria S, et al., 2012)**

A randomized control trial study was conducted to determine the effects of low-level laser therapy for perineal pain and healing after episiotomy in Birth Centre units of Amparo Brazil. Participants fifty-two postpartum women had mediolateral episiotomies during their first normal delivery were randomly divided into two groups of 26: an experimental group and a

control group. Interventions in the experimental group, the women were treated with LLLT. It was applied in three postpartum sessions: up to 2 hrs postpartum, between 20 and 24 hrs postpartum and between 40 and 48hrs postpartum. The LLLT was performed with diode laser, with a wavelength of660 nm (red light), spot size of 0.04 cm2, energy density of 3.8 J/cm2, radiant power of 15 mw and 10 s per point, which resulted in energy of 0.15 J per 21 point and a total energy of 0.45 J per session. The control group received no treatment. The healing process was assessed by REEDA and Numerical pain scale. The result are t = 1.986 and t =0.946 for experimental group and for control group t = 0.9264 and t = 0.7865. The comparison pain scores between the groups is no statistical difference. All postpartum women approved of the low-level laser therapy. **(Jaqueline D E., 2011)**

A comparative study was conducted to find the effect of Povidone-Iodine sitzbath versus Guggul Dhupan on episiotomy pain among post natal mother admitted in Pune hospital. 60 postnatal mothers were selected for this study, 30 postnatal mothers were given Povidone-Iodine sitzbath and 30 postnatal mothers were given 16 Guggul Dhupan. According to self- assessment score, maximum (53.3%) postnatal mothers were having mild pain after giving Povidone-Iodine sitzbath and this difference was statistically significant, maximum (63.3%) postnatal mothers were having severe episiotomy pain before Guggul Dhupan. The study concluded that Povidone-Iodine sitzbath was effective in reducing episiotomy pain. **(Anita Sali., 2007)**

Conclusion:

This chapter deals with the review of literature on various areas like evidence based episiotomy and its care, prevalence and effectiveness of Povidone-Iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing. The literatures laid the foundation for the present study which briefly describes procedure protocol, selection criteria and method of analysis. These reviews gave an idea regarding selection of Numerical Pain Rating scale and REEDA scale. Studies which included survey study, randomized and experimental study were reviewed deeply for the present study. In conclusion reviews evaluate the effect of Povidone-Iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers. This literature review confirmed that and Lavender oil sitzbath was more effective in reducing episiotomy pain and promoting wound healing compared to Povidone-Iodine sitzbath.

CHAPTER – III

MATERIALS AND METHODS

Research design is the blue print for conducting a study. It maximizes control over factors that could interfere with the validity of the study findings (Susan k. Grove et al., 2013). This comparative study was designed to assess the effectiveness of Povidone-Iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery in tertiary care settings, Coimbatore. This chapter deals with methodology adopted in this study. It includes the research design, population and sample, sampling technique and sample size, criteria for sample selection, setting of the study, description of tools, and score interpretation, report of pilot study, data collection procedure and method of data analysis.

3.1 Research Approach and Design:

Research approach:

In this study, quasi experimental research approach was adopted. Totally 60 postnatal mothers were selected by purposive sampling method. In that experimental group I consisted of 25 postnatal mothers receiving Povidone Iodine sitzbath and experimental group II consisted of 25 postnatal mothers receiving Lavender oil sitzbath. Episiotomy pain was assessed through Numerical Pain Rating scale and episiotomy wound healing was assessed through REEDA scale and both the treatments were compared.

Research design:

Quasi- experimental design:

Quasi Experimental, Time series design with multiple institution treatment was used for this study. This design measures the effect on the experimental group, based on their state before the beginning of the experiment (pretest) and the difference achieved at the end of the experiment (posttest). There is no control group in this design. In this method pretest was assessed after 2 hours of vaginal delivery and posttest was assessed on the 24 hrs, 48 hrs and 72

hrs of intervention. Quasi experiments are like true experiments that involve an intervention. This design lack randomization, the signature of a true experiment. The signature of a quasi experimental design is an intervention is the absence of randomization. Time series with multiple institution of treatment is useful when the researcher wants to measure the effects of a treatment over a long period of time. **(Polit, 2009)**

Time series design:

Experimental group I

$O_1 \longrightarrow X_1 \longrightarrow O_2 \longrightarrow X_1 \longrightarrow O_3 \longrightarrow X_1 \longrightarrow O_4$

Experimental group II

$O_1 \longrightarrow X_2 \longrightarrow O_2 \longrightarrow X_2 \longrightarrow O_3 \longrightarrow X_2 \longrightarrow O_4$

Where,

O_1- Pre test

O_2, O_3, O_4, - Post test Observations

X_1 -. Intervention (Povidone-Iodine Sitzbath)

X_2- Intervention (Lavender oil Sitzbath)

3.2 Variables of the Study:

Dependent variable: Episiotomy pain and wound healing

Independent variable: Povidone-Iodine sitzbath and Lavender oil sitzbath

3.3 Setting of the study:

The study was conducted in the obstetrics and gynecology ward of PSG hospitals. Postnatal mothers with episiotomy with normal vaginal delivery and instrumental delivery were selected for the study during the data collection period (From 1st February to March 3rd 2018). The total bed strength of PSG hospital is 1400 and the OG ward consists of 60 beds. It is

attached with well equipped labor ward. The OG department is well staffed with senior consultants, junior professors and postgraduate students and 15 nursing staff and one supervisor.

3.4 Population and Sampling:

A total of 2480 deliveries were conducted in PSG Hospital from 1st November 2016 to 31st October 2017. Out of this 1198 deliveries are vaginal deliveries with episiotomy. All postnatal mothers who undergone vaginal delivery with episiotomy and who met the inclusion criteria were selected. Through the degree of precision method the sample size was calculated.

3.4.1 Sampling technique and Sample size:

The sampling technique used in this study was purposive sampling to select the eligible population (postnatal mothers with episiotomy). Purposive sampling is one type of non-probability sampling in that flip coin method is used to allocate the subject into experimental group I and II. In that head of the coin denotes the experimental group I (Povidone–Iodine sitzbath) and tail of the coin denotes the experimental group II (Lavender oil sitzbath). The calculated sample size was 50 postnatal mothers who underwent vaginal delivery with episiotomy out of which 25 postnatal mothers to each in experimental group I and II. Sample size calculated by using degree of precision method.

$$n = \left(\frac{Z\,\sigma}{d} \right)^2$$

n = sample size

Z= Desired degree [1.96]

σ= Standard deviation of population = [18.18]

d= Standard error of population [5.04]

$$n = \left(\frac{1.96 \times 18.18}{5.04} \right)^2$$

n = 50

50 sample size. (25 sample for Povidone-Iodine sitzbath and 25 sample for Lavender oil sitzbath)

3.4.2 Sampling criteria:

Inclusion criteria:

- Postnatal mothers who undergone normal vaginal delivery with Episiotomy
- Postnatal mothers undergone instrumental delivery with episiotomy.

Exclusion Criteria:

- Those who are not willing to participate in this study
- Postnatal mothers with Perineal tear
- Heavy vaginal bleeding with episiotomy
- Mothers with cardiac diseases, mothers with gestational diabetes and hypertensive disorders.

3.5 Research Instrument:

Instruments and tool for data collection:

Tool consist of three sections

Section A: A Structured Questionnaire on Demographic and Obstetrical variables

Section B: Episiotomy Pain assessment

Section C: Episiotomy wound healing assessment

Section A: Through interview age of the mother, education, occupation, marital status, type of family, family income, area of living, frequency of self perineal care and changing of perineal pad are collected. From the record obstetrical score, known medical problem, mode of delivery, previous type of delivery, regarding analgesic medication and the investigations was recorded. By doing assessment types of episiotomy, length of episiotomy, number of sutures and indications of episiotomy was assessed.

Section B: Episiotomy pain was assessed through Numerical Pain Rating scale. Pain score was assessed during walking, sitting, changing position, urination and defecation. Numerical Pain Rating scale ranges from 0-10 score. Each assessment are given a minimum score is 0 (No pain) and maximum score is 10 (Severe pain).

Score interpretation:

Numerical pain rating scale consists of 0-10 score. Each assessment given a minimum score is 0 and maximum score is 10. It has been interpreted as following:

SCORE	INTERPRETATIONS
0	No pain
1-3	Mild pain
4-7	Moderate pain
8-10	Severe pain

Section C: Episiotomy wound was assessed through REEDA scale. The name **Reeda** is a Muslim baby name. In Muslim the **meaning** of the name **Reeda** is: Favored by God. The REEDA scale is a standardized tool for assessing perineal healing that was primarily developed by Davidson and later reviewed by Carey. The REEDA scale is a scale for grading the severity of perineal trauma associated with episiotomy or laceration associated with delivery. It consists of 5 area of assessment such as redness, edema of the perineal area, ecchymosis of the perineal area, discharge from the wound and approximation of the edges. Redness at area is assessed as none, within 0.5 cm of incision bilaterally, within 2.5 cm of incision bilaterally, beyond 5 cm of incision bilaterally. Edema of perineal wound area is assessed as none, perineal less than 1 cm

from incision, perineal and vulva 1-2 cm from incision, perineal and vulva >2 cm from incision. Ecchymosis of the perineal area is assessed as none, within 0.25 cm bilaterally, between 0.25-1 cm bilaterally, greater than 1 cm bilaterally. Discharge from the wound is assessed as none, serum, serosanguinous, bloody, purulent. Approximation of skin edges is assessed whether its closed, skin separation 3mm or less, skin and subcutaneous fat separation, skin, subcutaneous fat and facial separation. Each assessment are given a minimum score is 0 and maximum score is 3. The total REEDA score ranged from 0 to 15. As the score increases, it will indicate higher rate of infection. If the score decreases, it shows the evidence of healing process.

Score interpretation:

The total REEDA scale ranged from 0-15. It has been interpreted as following:

SCORE	INTERPRETATIONS
0	Adequate wound healing
1-5	Moderate wound healing
6-10	Mild wound healing
11-15	Poor wound healing

3.5.1 Validity and reliability of the Tool:

Validity of the Tool:

Validity is an scientific instrument. The term Validity refers to the degree to which a test measure what it claims to measure. The content validity of the tool was obtained from experts in ethical committee, Doctors and faculty from OBG department. The experts gave their opinions, clarity and appropriateness of the tool.

Reliability of the tool:

Reliability refers to precision of the accuracy of measurement of the score. Reliability of the tool was determined using inter rater reliability method. It was computed using Karl Pearson coefficient method. The reliability of the Numerical pain rating scale was found to be 0.96 and REEDA scale was found to be 0.81. The tool was found to be highly reliable and feasible for the study.

3.5.2 Techniques of Data collection:

Screening was done among postnatal mothers who undergone vaginal delivery with episiotomy. Consent obtained from the postnatal mothers who met the inclusion criteria were selected by using flip coin method for the study. Main study was conducted from 1st February to 3rd March for 6 weeks at PSG Hospital, Coimbatore. Demographic data and obstetrical data w``as obtained from medical records and through one to one interview. Episiotomy Pain and wound healing level was assessed after 2 hrs of vaginal delivery followed by posttest assessed after 24 hrs, 48 hrs, 72 hrs and its outcome was measured with Numerical pain rating scale, and REEDA scale by investigator.

Intervention:

Protocol was prepared for administration of Povidone-Iodine sitzbath and Lavender oil sitzbath. Povidone-Iodine solution also known as iodopovidone, is an antiseptic used for minor wounds. It appears yellow in low concentration and brown at higher concentration. It is slightly odor, easily soluble in water. One bottle contains 100 ml solutions. In Povidone iodine, sitzbath filled two third (4 litres) of the sitz basin with clean hot water and added with 5-6 drops of 10% betadine solution. The temperature of the water is 105^0F to 110^0F and is checked with lotion thermometer. Place the sitzbath basin on toilet commode. Instruct the mother to empty her bladder and clean the perineal area from front to back manner before sitzbath. Immersed the perineal area into the basin for 20 minutes duration. It should be administered 2 times a day in every morning and evening with 12 hours interval from the 1st postnatal day to till discharge. Lavender oil is an essential oil in aromatherapy which is obtained by distillation from the flower spikes of certain species of lavender. It is colorless oil and insoluble in water. It has been used for 2,500 years. Lavender oil is known for ita anti-inflammatory, antifungal, antidepressant, antiseptic, antibacterial and antimicrobial properties. One bottle contains 10 ml solution. It should be used 40 interventions. Lavender oil, sitzbath filled two third (4 litres) of the sitz basin with clean hot water and added with 5-6 drops of commercially prepared Lavender oil. After that the same protocol followed in Lavender oil sitzbath which is followed by Povidone-Iodine sitzbath group. Pretest was done after 2 hours of vaginal delivery with episiotomy and the posttest was done after 24 hrs, 48 hrs and 72 hrs of intervention.

Data collection procedure:

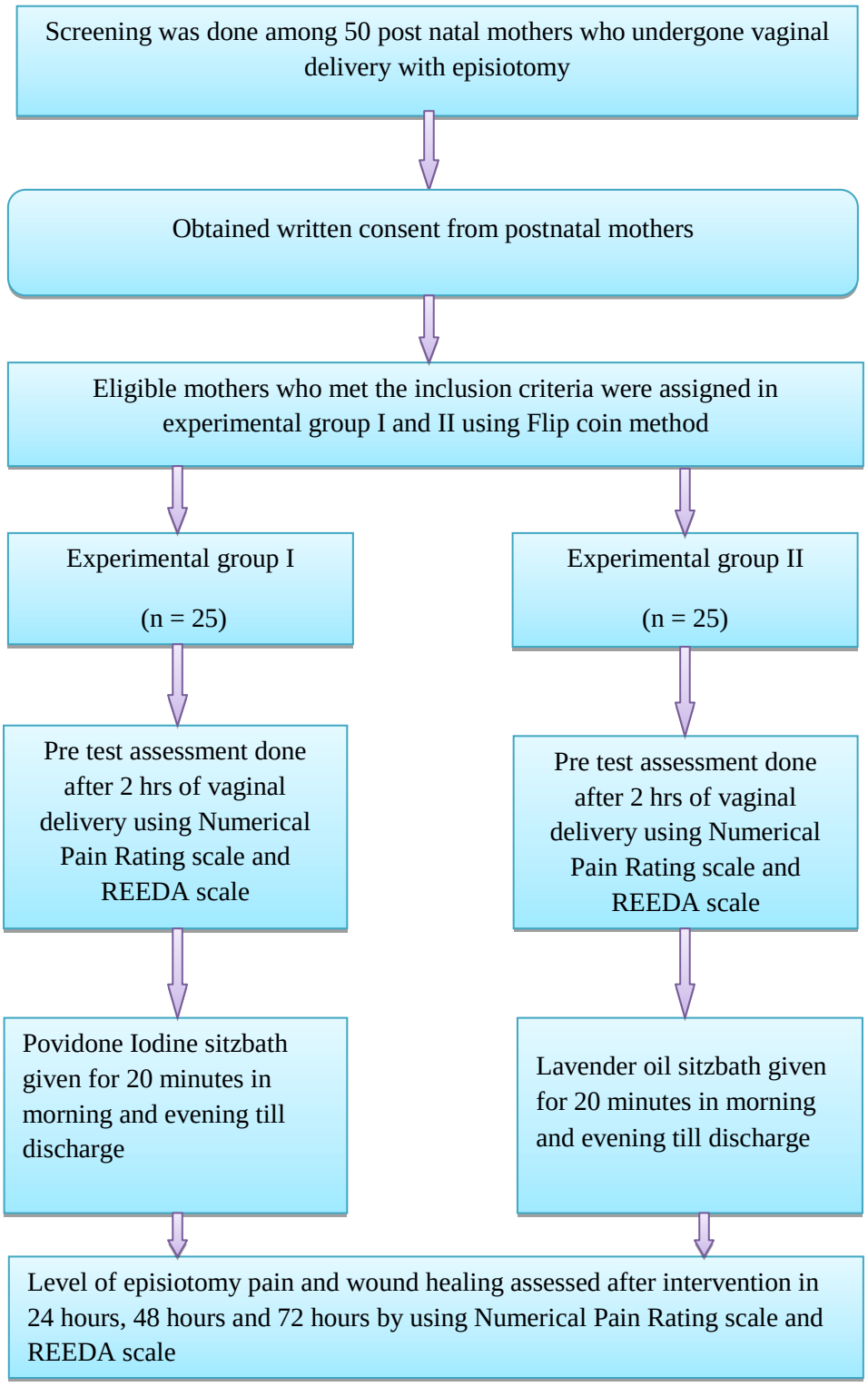

Fig: 3.5.3 Schematic representation of data collection procedure

3.6 Ethical approval:

The Institutional Human Ethics Committee, PSG Institute of Medical Science and Research reviewed the proposal and approved the study to conduct. The Institutional Human Ethics Committee consists of fifteen members of different areas of expertise. After getting clearance from Institutional Human Ethics Committee consent was taken from the sample and data collection was done. Official permission was obtained from HOD of OBG department in PSG Hospital.

3.7 Report of the pilot Study:

Pilot study was conducted to test the practicability of the tool and feasibility of tool of conducting the study. It was conducted for a period of one week from 30-10-17 to 05-11-17, in the postnatal ward, PSG hospitals. For pilot study 10 Postnatal mothers were selected based upon purposive sampling and according to the inclusion criteria. Pre test was conducted on 30.10.17 mother who are in after 2hrs of vaginal delivery. From first postnatal day, intervention Povidone-Iodine sitzbath and Lavender oil sitzbath was given two times a day (morning and evening) with 12 hours interval for 3 days to reduce the episiotomy pain and promote wound healing among postnatal mothers who undergone vaginal delivery. The post test was conducted 24 hrs, 48 hrs and 72hrs after intervention through Numerical pain rating scale and REEDA scale. The data were tabulated and analysed using descriptive and inferential statistics. By using paired 't' test data analysis was done and the 't' test value was which is significant at the level of ($p<0.05$). The result of the pilot study when analyzed gave the evidence that the tool were reliable and result shows that there was significant difference in reducing episiotomy pain and promoting wound healing among postnatal mothers. There was no association between the pretest severity of episiotomy pain and wound healing among postnatal mothers with their selected demographic variables.

3.7.1 Changes brought after pilot study:

The pilot study presented was suggested to assess the correlation between episiotomy pain and wound healing among postnatal mothers in experimental group I and II.

3.8 Data Analysis plan:

The collected data was analyzed by using descriptive and inferential statistics.

Descriptive statistics:

- Frequency and percentage distribution of samples to assess the demographic variables.
- Frequency distribution, mean, standard deviation will be used to describe the level of post test episiotomy pain and wound healing before and after administration of Povidone Iodine and Lavender oil sitzbath..

Inferential statistics:

- Paired 't' test was used to find the significant differences between the pre-test and post-test level of episiotomy pain and wound healing among postnatal mothers who undergone vaginal delivery in both groups.
- Independent 't' test was used to assess the significant differences in post-test level of episiotomy pain and wound healing between the experimental group I and II.
- Karl Pearson correlation coefficient test was used to correlate the episiotomy pain and wound healing after sitzbath among postnatal mothers in experimental group I and II.
- Chi square test was used to find out the association of pre test severity of episiotomy pain and wound healing with selected demographic variables among postnatal mothers who undergone vaginal delivery.

CHAPTER-IV

DATA ANALYSIS AND INTERPRETATION

Analysis is a process of organizing the data in such a way that research question can be answered **(Polit and Hungler., 2009)**. This chapter deals with the analysis of the data collected from the patient and the interpretation of the results helps in making sense of the results of a study. The data was collected to assess the effectiveness of Povidone iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery in a tertiary care setting, Coimbatore. The data was collected, analysed and tested for the significance.

The analysis in this chapter includes:

4.1 Frequency and percentage distribution of demographic and Obstetrical variables among the postnatal mothers.

4.2 Assessment of episiotomy pain and wound healing among postnatal mothers.

4.3 Effectiveness of Povidone iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery with episiotomy.

4.4 Comparison of the effect of Povidone-Iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery with episiotomy between experimental group I and II

4.5 Correlation between episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery with episiotomy after sitzbath.

4.6 Association between the level of episiotomy pain and wound healing with their selected demographic variables among postnatal mothers.

4.1 Demographic and Obstetrical Variables of Postnatal Mothers

Table: 4.1.1 Frequency and percentage distribution of postnatal mothers according to their socio-demographic variables n=50

S.No	Demographic variables	Experimental group I n=25		Experimental group II n=25	
		f	%	f	%
1	**Age (Age in years)**				
	18 – 22 years	7	28	2	8
	23 – 27 years	10	40	17	68
	28 – 32 years	8	32	6	24
2	**Education**				
	High school	5	20	3	12
	Higher secondary	4	16	5	20
	Graduates	13	52	15	60
	Post Graduates	3	12	2	8
3	**Occupation**				
	Private sectors	9	36	5	20
	Housewife	16	64	20	80
4	**Marital status**				
	Married	25	100	25	100
5	**Type of family**				
	Nuclear family	22	88	23	92
	Joint family	3	12	2	8
6	**Family income**				
	Below 10,000	7	28	4	12
	11,000 – 30,000	12	48	19	76
	30,000 – 50,000	6	24	2	8
7	**Area of living**				
	Urban	8	32	4	16
	Rural	17	68	21	84
8	**Obstetrical score**				
	Primi	20	80	16	64
	Multi	5	20	9	36
9	**Any known medical problems**				
	No	25	100	25	100
10	**Mode of delivery**				
	Normal vaginal delivery	15	60	23	92
	Vacuum assisted delivery	10	40	2	8
11	**Previous delivery**				
	Previous episiotomy	5	20	9	36
	None	20	80	16	64

The above table revealed that the, maximum 7 (28%) postnatal mothers were in age group of 18 to 22yrs, 10 (40%) postnatal mothers were in age group of 23 to 27yrs, and 8(32%) postnatal mothers were in age group of 28 to32yrs in experimental group I. Where as in experimental group II, 2 (8%) postnatal mothers were in age group of 18 to 22yrs, 17(68%) postnatal mothers in age group of 23 to 27yrs, and6(24%) postnatal mothers were in age group of 28 to 32 yrs.

Among 25 postnatal mothers, most of the 13(52%) mothers are graduates, 5(20%) mothers studied high school, 4(16%) mothers studied higher secondary and 3 (12%) of them in Post graduates in experimental group I. Where as in experimental group II, 15(60%) postnatal mothers were graduates, 5(20%) postnatal mothers studied higher secondary, 3(12%) postnatal mothers studied high school and 2(8%) postnatal mothers were Post graduates.

Majority of the postnatal mothers 16 (64%) are Housewives and 9(36%) postnatal mothers were working in private sectors in experimental group I. where as in experimental group II, 20(80%) postnatal mothers are Housewives and 5(20%) postnatal mothers were working in Private sectors.

Regarding marital status all of them 25 (100%) post natal mothers are married in both experimental group I and II.

Majority of the mothers 22 (88%) are belongs to nuclear family and 3(12%) mothers were belongs to joint family in experimental group I. Where as in experimental group II, 23 (92%) post natal mothers were belongs to nuclear family and 2(8%) postnatal mothers were belongs to joint family in experimental group II.

Among 25 postnatal mothers in each group, maximum 12 (48%) mothers were belongs to 11,000-30,000 income, 7 (28%) mothers were belongs to below 10,000 income and 6 (24%) mothers were belongs to 31,000-50,000 income in experimental group I. Where as in experimental group II, 19 (76%) mothers were belongs to 11,000-30,000 income, 4 (16%) mothers were belongs to below 10,000 income and 2 (8%) mothers were belongs to 31,000-50,000 income in both experimental group I and II.

Majority of the postnatal mothers are 17(68%) living in rural area and 8(43.3%) postnatal mothers were living in urban in experimental group I. where as in experimental

group II, 21 (84%) postnatal mothers were living in rural and 4 (16%) postnatal mothers were living in urban area.

Most of the postnatal mothers 20(80%) were primipara and 5(20%) postnatal mothers are multipara in experimental group I. where as in experimental group II, 16(64%) post natal mothers are belongs to primipara and 9(36%) postnatal mothers are belongs to multpara.

All postnatal mothers had no medical problems in both experimental group I and II. Among postnatal mothers receiving Povidone-Iodine sitzbath and Lavender oil sitzbath, most of the mothers 15 (60%) had normal vaginal delivery and 10 (40%) mothers had vacuum assisted delivery in experimental group I. Where as in experimental group II, 23 (92%) postnatal mothers had normal vaginal delivery and 2 (8%) mothers had vacuum assisted delivery in both experimental group I and II.

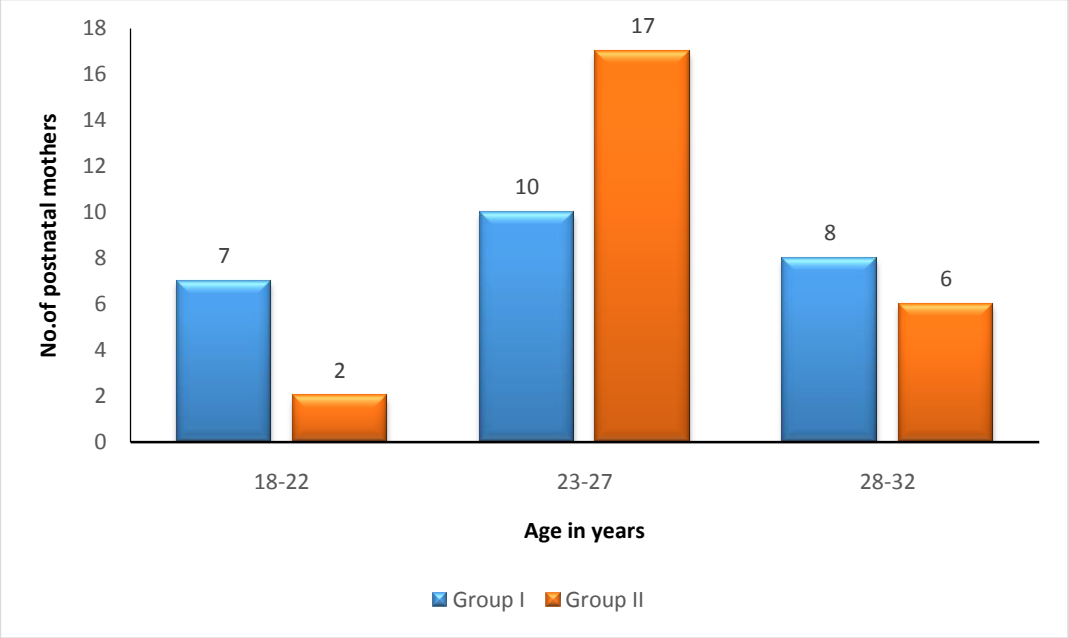

Figure 4.1.1.1 Clustered column diagram shows the age in years among postnatal mothers between experimental group I and II

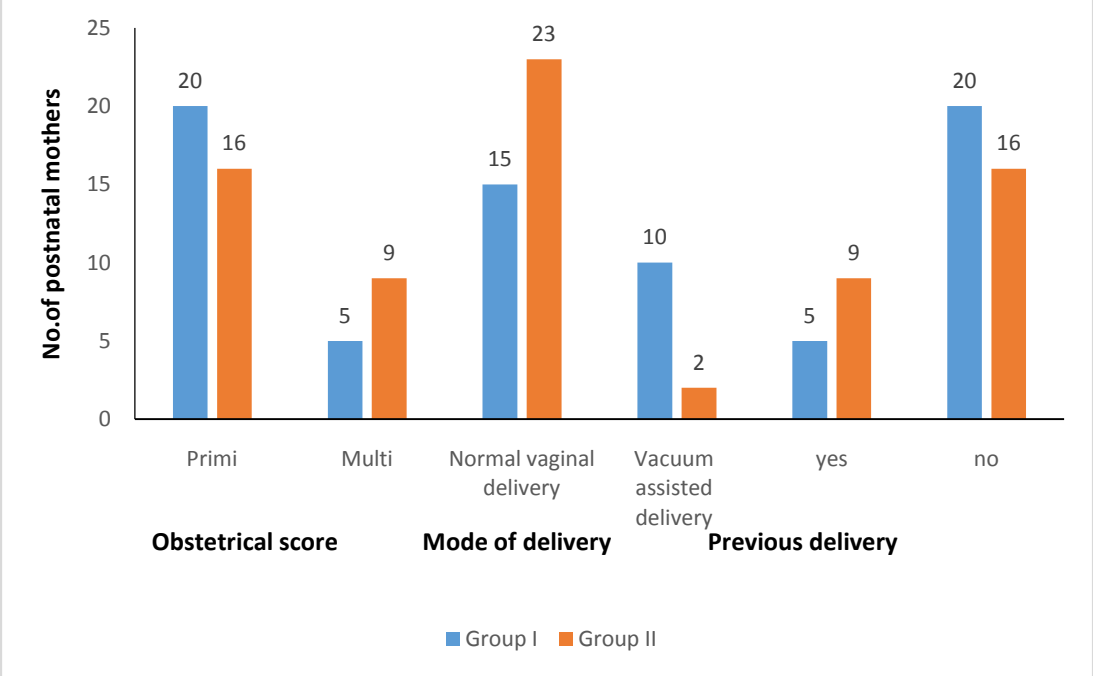

Figure 4.1.1.2 Clustered column diagram shows the Obstetrical score, Mode of delivery and previous delivery among postnatal mothers between experimental group I and II

Table: 4.1.2. Frequency and percentage distribution of Obstetrical variables among postnatal mothers

n=50

S.No	Obstetrical variables	Experimental group I n=25		Experimental group II n=25	
		f	%	f	%
1	**Types of episiotomy**				
	Mediolateral	25	100	25	100
2	**Length of episiotomy**				
	3-4 cm	11	44	3	12
	5-6 cm	9	36	21	84
	7-8 cm	5	20	1	4
3	**Number of episiotomy suture**				
	4 to 5	15	60	23	92
	6 to 7	10	40	2	4
4	**Indications for episiotomy**				
	Rigid perineum	9	36	15	60
	Anticipating perineal tear	12	48	7	28
	Macrosomic baby	4	16	3	12
5	**Frequency of self perineal care**				
	After each urination and defecation	10	40	12	48
	Thrice in daily	10	40	8	32
	More than thrice	5	20	5	20
6	**Change the position frequently**				
	Yes	9	36	24	96
	No	16	64	1	4
7	**Receiving analgesic drugs**				
	Yes	25	100	25	100
8	**How many hours once change the perineal pad**				
	6 hours once	9	36	2	8
	8 hours once	11	44	21	84
	More than 8 hours	5	20	2	8
9	**Vital signs**				
	Normal	25	100	25	100
10	**Haemoglobin level**				
	Less than 10 gm/dl	15	60	7	28
	10.1-15 gm/dl	10	40	18	72
11	**BMI**				
	18-24.9	15	60	15	60
	25-29.9	9	36	8	32
	>30	1	4	2	8
12	**Glucose**				
	71-120	23	92	21	84
	>120	2	8	4	16

The above tables revealed that, all of the mothers had (100%) mediolateral episiotomy. Most of the mothers had 11 (44%) 3-4 cm length of episiotomy in experimental group I and in experimental group II 21 (84%) had 5-6 cm length of episiotomy. Majority of the mothers had 4 to 5 number of episiotomy suture in both experimental group I (60%) and II (92%). Among 25 postnatal mothers in each group, most of them had episiotomy due to indications of rigid perineum and anticipating perineal tear in both the experimental group I and II. Majority of the mothers are wash her perineum after each urination and defecation in both groups and changed her pad every 8 hours once. Majority of the mothers had no deviations in the investigations.

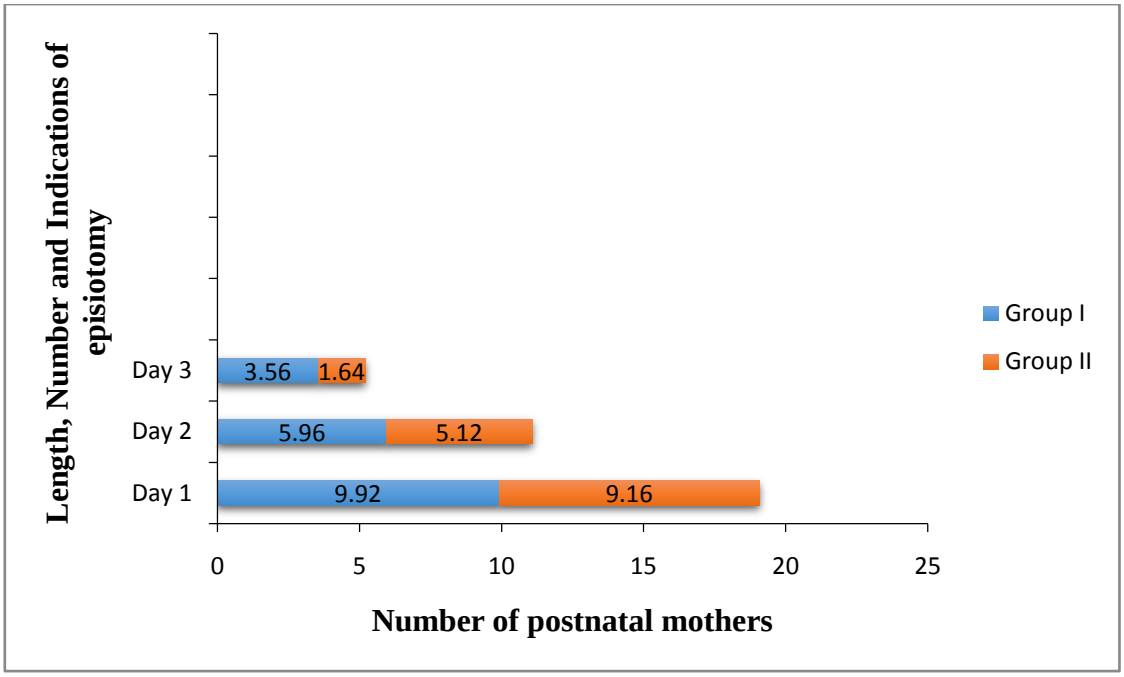

Figure 4.1.2.1 Stacked bar diagram shows the length, number and indications of episiotomy among postnatal mothers between experimental group I and II

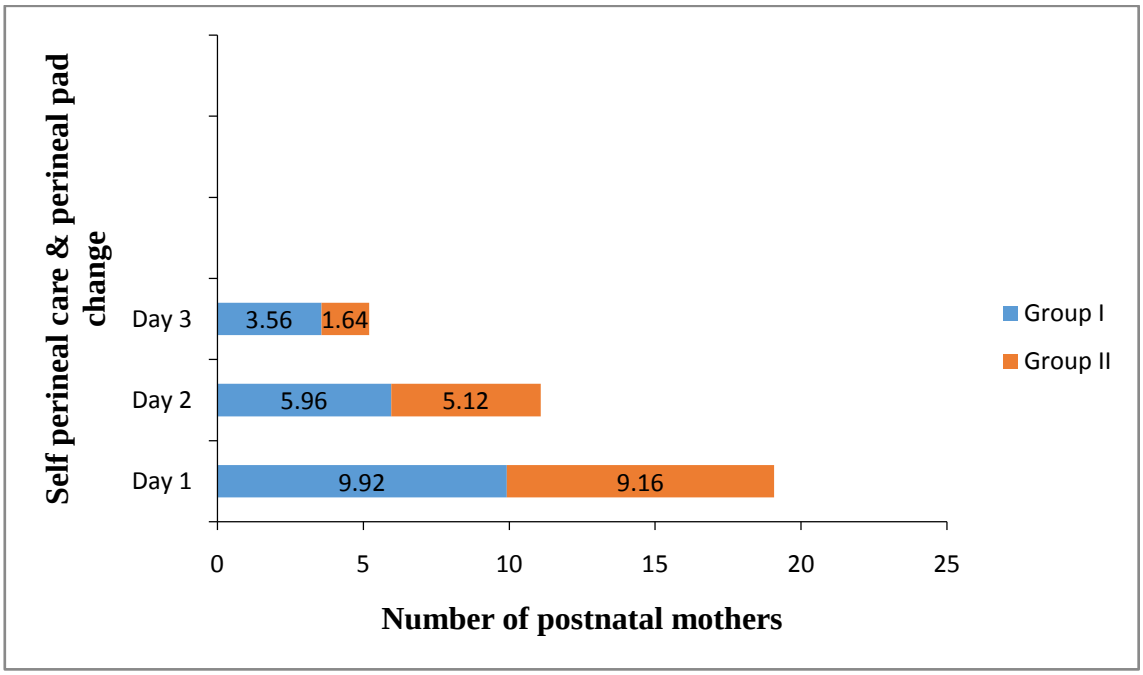

Figure 4.1.2.2 Stacked bar diagram shows the self perineal care and changing of perineal pad among postnatal mothers between experimental group I and II

4.2. Assessment of episiotomy pain and wound healing among postnatal mothers

Table: 4.2.1. Frequency and percentage distribution of level of episiotomy pain among postnatal mothers n=50

S. No	Level of Pain		Experimental Group I n=25								Experimental Group II n=25							
			Before		Post Test						Before		Post Test					
			Pretest		I		II		III		Pre test		I		II		III	
			f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
1	Walking	No pain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Mild	-	-	-	-	-	-	4	16	-	-	-	-	-	-	25	100
		Moderate	7	28	7	28	25	100	21	84	6	24	12	48	25	100	-	-
		Severe	18	72	18	72	-	-	-	-	19	76	13	52	-	-	-	-
2	Sitting	No pain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Mild	-	-	-	-	-	-	2	8	-	-	-	-	-	-	24	96
		Moderate	7	28	8	32	25	100	23	92	6	24	11	44	25	100	1	4
		Severe	18	72	17	68	-	-	-	-	19	76	14	56	-	-	-	-
3	Changing Position	No pain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Mild	-	-	-	-	1	4	19	76	-	-	-	-	20	80	25	100
		Moderate	7	28	9	36	24	96	6	24	6	24	20	80	5	20	-	-
		Severe	18	72	16	64	-	-	-	-	19	76	5	20	-	-	-	-
4	Urination	No pain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Mild	-	-	-	-	-	-	2	8	-	-	-	-	-	-	23	92
		Moderate	7	28	7	28	25	100	23	92	6	24	8	32	25	100	2	8
		Severe	18	72	7	28	-	-	-	-	19	76	17	68	-	-	-	-
5	Defecation	No pain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Mild	-	-	-	-	-	-	2	8	-	-	-	-	-	-	22	88
		Moderate	7	28	7	28	25	100	23	92	6	24	8	32	25	100	3	12
		Severe	18	72	7	28	-	-	-	-	19	76	17	68	-	-	-	-

The table 4.2.1 shows the level of pain in the experimental group I and II. In this experimental group I most of the mother had severe pain 18 (72%) in the pre-test. where on the posttest I, majority had severe pain (68%). On posttest II of intervention it further reduced to moderate pain (96%). On the posttest III some of them (8%) had mild pain. In the experimental group II most of the mother had severe pain 17 (68%) in the pre-test. where on the posttest I and II majority (100%) had moderate pain. On the posttest III most of the mother (88%) had mild pain.

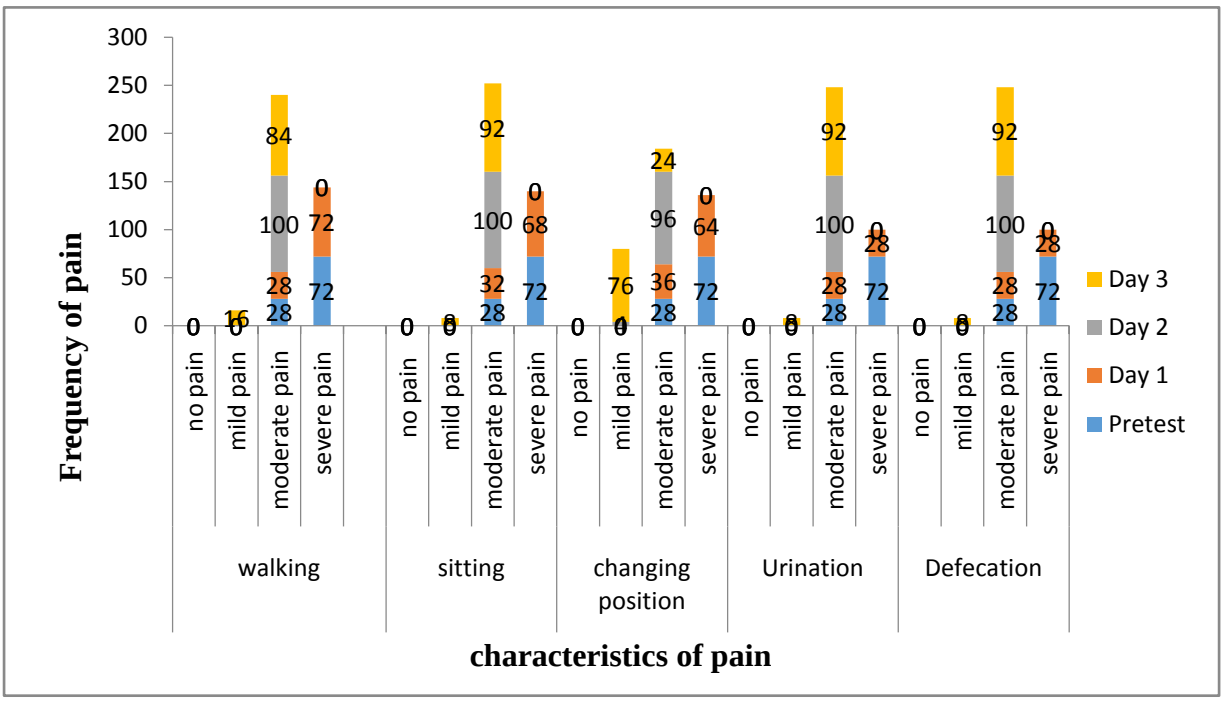

Fig. 4.2.1.1 Stacked column diagram shows the degree of episiotomy pain in experimental group I

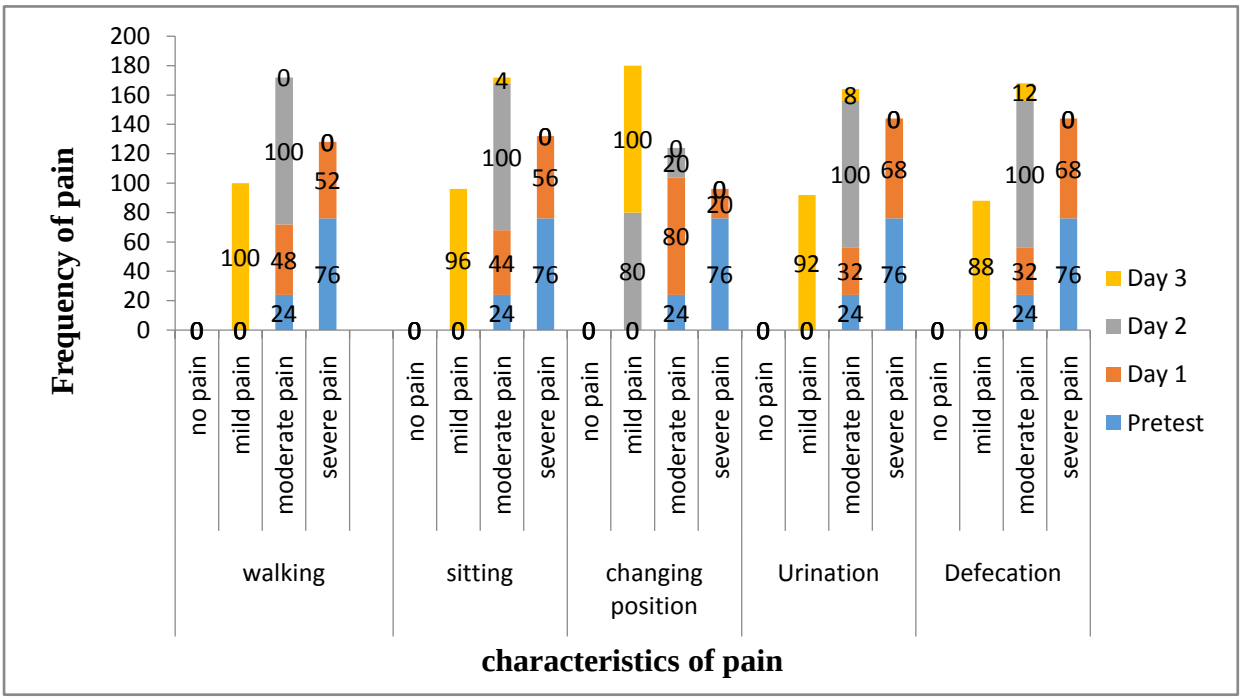

Fig. 4.2.1.2 Stacked column diagram shows the degree of episiotomy pain in experimental group II

Table: 4.2.2. Frequency and percentage distribution of level of episiotomy wound healing among postnatal mothers n=50

S.No	Level of Wound Healing	Experimental Group I n=25								Experimental Group II n=25							
		Before		Post Test						Before		Post Test					
		Pre test		I		II		III		Pre test		I		II		III	
		f	%	F	%	f	%	F	%	f	%	f	%	F	%	f	%
1	Adequate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Moderate	-	-	-	-	11	44	19	76	-	-	-	-	19	76	25	100
2	Mild	6	24	22	88	14	56	6	24	7	28	25	100	6	24	-	-
3	Poor	19	76	3	12	-	-	-	-	18	72	-	-	-	-	-	-

The table 4.2.2.Shows the level of episiotomy wound healing in the experimental group I and II. In this experimental group I most of the mother had poor wound healing (76%) in the pre-test. where on the posttest I, majority had mild wound healing (88%). On posttest II of intervention some of the mother had moderate wound healing (44%). On the posttest III most of the mother (76%) had moderate wound healing.In the experimental group II most of the mother had poor wound healing (72%) in the pre-test. where on the posttest I, all of them had mild wound healing (100%). On posttest II of intervention majority of the mother had moderate wound healing (76%). On the posttest III all of the mother (100%) had moderate wound healing.

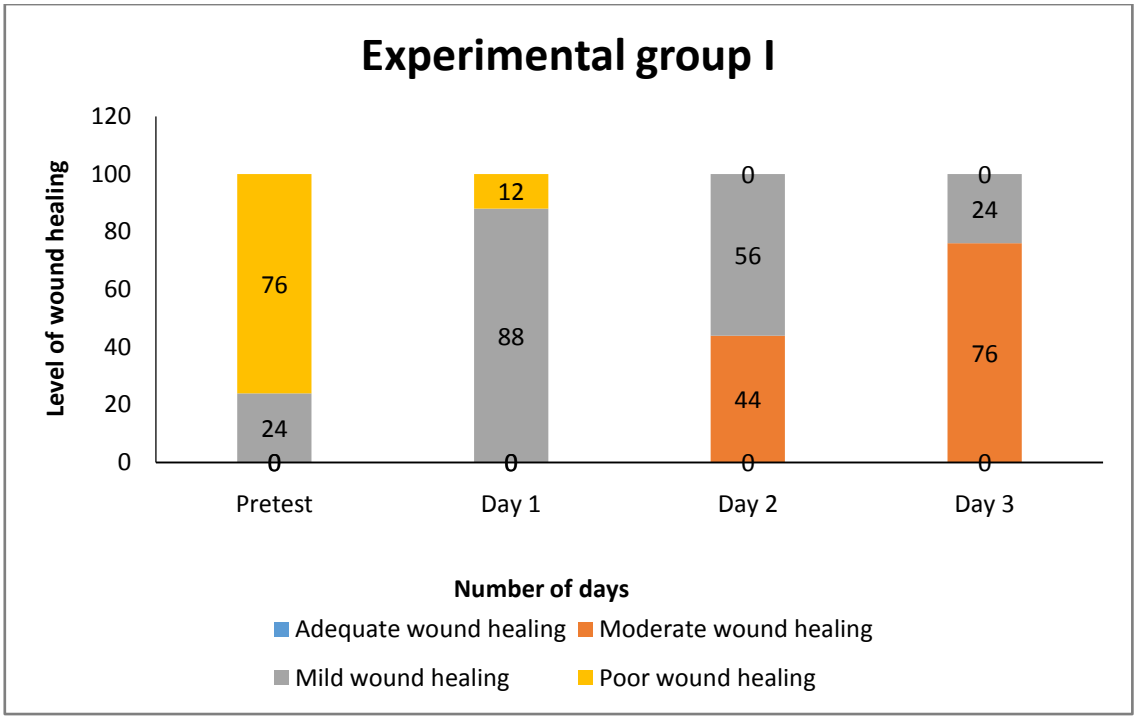

Fig. 4.2.2.1 Stacked column diagram shows the level of wound healing in experimental group I

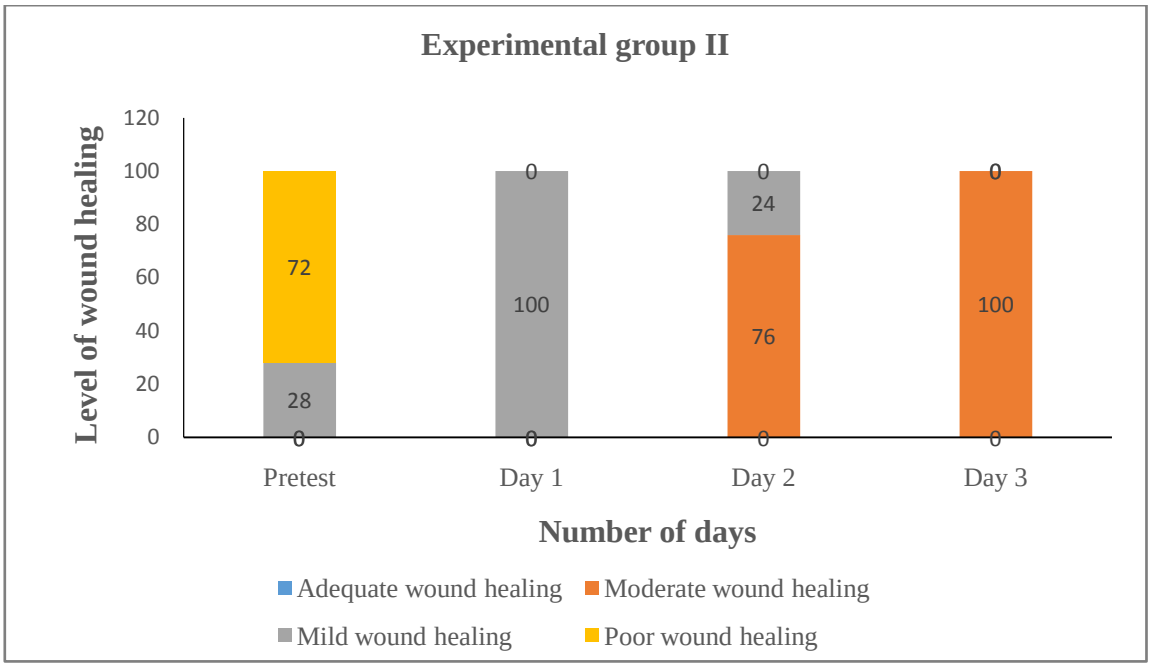

Fig. 4.2.2.2 Stacked column diagram shows the level of wound healing in experimental group II

4.3. Effectiveness of Povidone-Iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers

H_0: There will not be a significant difference in the mean pretest and mean posttest level of episiotomy pain and wound healing among postnatal mothers after Povidone-Iodine sitzbath and Lavender oil sitzbath.

Table: 4.3.1. Comparison of mean and standard deviation of Episiotomy pain between pre test and post test scores among Experimental group I using paired 't' test

n=25

S.No	Experimental Group I		Mean ± SD	Calculated 't' Value	Table Value
1	Walking	Pre-test	8.8 ± 0.36	-	2.064
		Post-test I	7.24 ± 0.58	12.39*	
		Post-test II	5.44 ± 0.49	29.44*	
		Post-test III	3.92 ± 0.48	38.41*	
2	Sitting	Pre-test	8.76 ± 0.42	-	2.064
		Post-test I	7.64 ± 0.48	12.73*	
		Post-test II	5.8 ± 0.4	24.22*	
		Post-test III	4.28 ± 0.4	34.29*	
3	Changing position	Pre-test	8.8 ± 0.4	-	2.064
		Post-test I	6.64 ± 0.48	22.85*	
		Post-test II	4.8 ± 0.77	26.18*	
		Post-test III	2.96 ± 0.74	34.33*	
4	Urination	Pre-test	8.72 ± 0.44	-	2.064
		Post-test I	7.56 ± 0.49	9.28*	
		Post-test II	5.68 ± 0.46	20.68*	
		Post-test III	4.2 ± 0.46	31.64*	
5	Defecation	Pre-test	8.72 ± 0.44	-	2.064
		Post-test I	7.56 ± 0.49	9.28*	
		Post-test II	5.68 ± 0.46	20.68*	
		Post-test III	4.2 ± 0.46	31.64*	

Note: * significant at the level of p<0.05

The table 4.3.1.Describes that the calculated 't' value is greater than the table value 2.064 at the level of p<0.05. This showed there was a significance differences between pre-test and post-test mean score of episiotomy pain among post natal mothers who received Povidone iodine sitzbath. Hence it is concluded that the Povidone iodine sitzbath was significantly reduces pain. So the null hypothesis is rejected.

Table: 4.3.2. Comparison of mean and standard deviation of Episiotomy pain between pre test and post test scores among Experimental group II using paired 't' test

n = 25

S.No	Experimental Group II		Mean ± SD	Calculated 't' Value	Table Value
1	Walking	Pre-test	8.56 ± 0.49	-	2.064
		Post-test I	6.56 ± 0.57	12.24*	
		Post-test II	4.52 ± 0.49	29.89*	
		Post-test III	2.44 ± 0.49	45.95*	
2	Sitting	Pre-test	8.56 ± 0.49	-	2.064
		Post-test I	6.68 ± 0.67	12.03*	
		Post-test II	4.56 ± 0.54	40*	
		Post-test III	2.68 ±0.49	49*	
3	Changing position	Pre-test	8.4 ± 0.48	-	2.064
		Post-test I	5.92 ± 0.68	18.98*	
		Post-test II	3.8 ± 0.68	32.52*	
		Post-test III	1.84 ± 0.61	46.08*	
4	Urination	Pre-test	8.56 ± 0.49	-	2.064
		Post-test I	6.8 ± 0.63	11.29*	
		Post-test II	5 ± 0.56	25*	
		Post-test III	2.84 ± 0.53	33.94*	
5	Defecation	Pre-test	8.56 ± 0.49	-	2.064
		Post-test I	6.8 ± 0.63	11.29*	
		Post-test II	4.88 ± 0.62	21.58*	
		Post-test III	2.84 ± 0.53	33.94*	

Note: * significant at the level of p<0.05

The above table describes that the calculated 't' value is greater than the table value 2.064 at the level of p<0.05. This showed there was a significance differences between pre-test and post-test mean score of episiotomy pain among post natal mothers who received Lavender oil sitzbath. Hence it is concluded that the Lavender oil sitzbath was significantly reduces pain. So the null hypothesis is rejected.

Table: 4.3.3 Comparison of mean and standard deviation of Episiotomy wound healing between pre test and post test scores among Experimental group I using paired 't' test

n =25

S.No	Experimental Group I	Mean ± SD	Calculated 't' value	Table value
1	Pretest	13.24 ± 0.70		
2	Posttest I	9.92 ± 1.07	29.81*	2.064
3	Posttest II	5.96 ± 0.89	38.87*	2.064
4	Posttest III	3.56 ± 0.56	64.67*	2.064
Overall Mean and SD		19.44 ± 2.52		

Note: * significant at the level of p<0.05

The above table describes that the mean and standard deviation of the experimental group I is 19.44 and 2.52 respectively. The calculated 't' value is greater than the table value 2.064 at the level of p<0.05. This showed there was a significance differences between pre test and post-test mean score of episiotomy wound healing among post natal mothers who received povidone iodine sitzbath. Hence it is concluded that the povidone iodine sitzbath was significantly promoting wound healing. So the null hypothesis is rejected.

Table: 4.3.4. Comparison of mean and standard deviation of Episiotomy wound healing between pre test and post test scores among Experimental group II using paired 't' test

n =25

S.No	Experimental Group II	Mean ± SD	Calculated 't' value	Table value
1	Pretest	13.12 ± 0.65		
2	Posttest I	9.16 ± 0.88	19.41*	2.064
3	Posttest II	5.12 ± 0.863	40*	2.064
4	Posttest III	1.64 ± 0.557	69.77*	2.064
Overall Mean and SD		15.92 ± 2.3		

Note: * significant at the level of p<0.05

The above table describes that the mean and standard deviation of the experimental group I is 15.92 and 2.3 respectively. The calculated 't' value is greater than the table value 2.064 at the level of p<0.05. This showed there was a significance differences between pre-test and post-test mean score of episiotomy wound healing among post natal mothers who received Lavender oil sitzbath. Hence it is concluded that the Lavender oil sitzbath was significantly promoting wound healing. So the null hypothesis is rejected.

4.4. Comparison of posttest level of Povidone-Iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery between experimental group I and II

H_0: There will not be a significant difference in the mean posttest level of episiotomy pain and wound healing among postnatal mothers in both experimental group I and II.

Table: 4.4.1. Comparison of mean and SD of posttest level of episiotomy pain between experimental group I and experimental group II scores among postnatal mothers using independent 't' test

n = 50

Post test	Experimental group I	Experimental group II	Calculated 't' value	Table value
	Mean ± SD	Mean ± SD		
Walking	5.53 ± 0.51	4.50 ± 0.51	3.7389*	1.860
Sitting	5.90 ± 0.42	4.64 ± 0.56		
Changing Position	4.8 ± 0.66	3.85 ± 0.65		
Urination	5.81 ± 0.47	4.88 ± 0.57		
Defecation	5.81 ± 0.47	4.84 ± 0.59		
Overall mean and SD	5.5700 ± 0.4524	4.5420 ± 0.4163		

Note: * significant at the level of p<0.05.

The above table describe that the overall mean value of experimental group II is 4.5420 which is lesser than the mean of experimental group I. The standard deviation of experimental group II is 0.4163 which is less than the standard deviation of experimental group I shown by. The calculated t value is 3.7389which is greater than the table value (1.860). Thus the results shows that Lavender oil sitzbath is effective in reducing pain compared to Povidone Iodine sitzbath among postnatal mothers undergone vaginal delivery with episiotomy at level of p<0.05. Hence the null hypothesis is rejected.

Table: 4.4.2. Comparison of mean and SD of posttest level of episiotomy wound healing between experimental group I and experimental group II scores among postnatal mothers using independent 't' test

n = 50

Post test	Experimental group I	Experimental group II	Calculated 't' value	Table value
	Mean ± SD	Mean ± SD		
Post test I	9.92 ± 1.07	9.16 ± 0.88	4.108*	2.132
Post test II	5.96 ± 0.89	5.12 ± 0.86		
Post test III	3.56 ± 0.56	1.64 ± 0.55		
Overall mean and SD	6.48 ± 0.84	5.30 ± 0.76		

Note: * significant at the level of p<0.05.

The above table describe that the overall mean value of experimental group II is5.30 which is lesser than the mean of experimental group I. The standard deviation of experimental group II is 0.76 which is less than the standard deviation of experimental group I shown by. The calculated t value is 4.108which is greater than the table value (2.132). Thus the results shows that Lavender oil sitzbath is effective in wound healing compared to Povidone iodine sitzbath among postnatal mothers undergone vaginal delivery with episiotomy at level of p<0.05. Hence the null hypothesis is rejected.

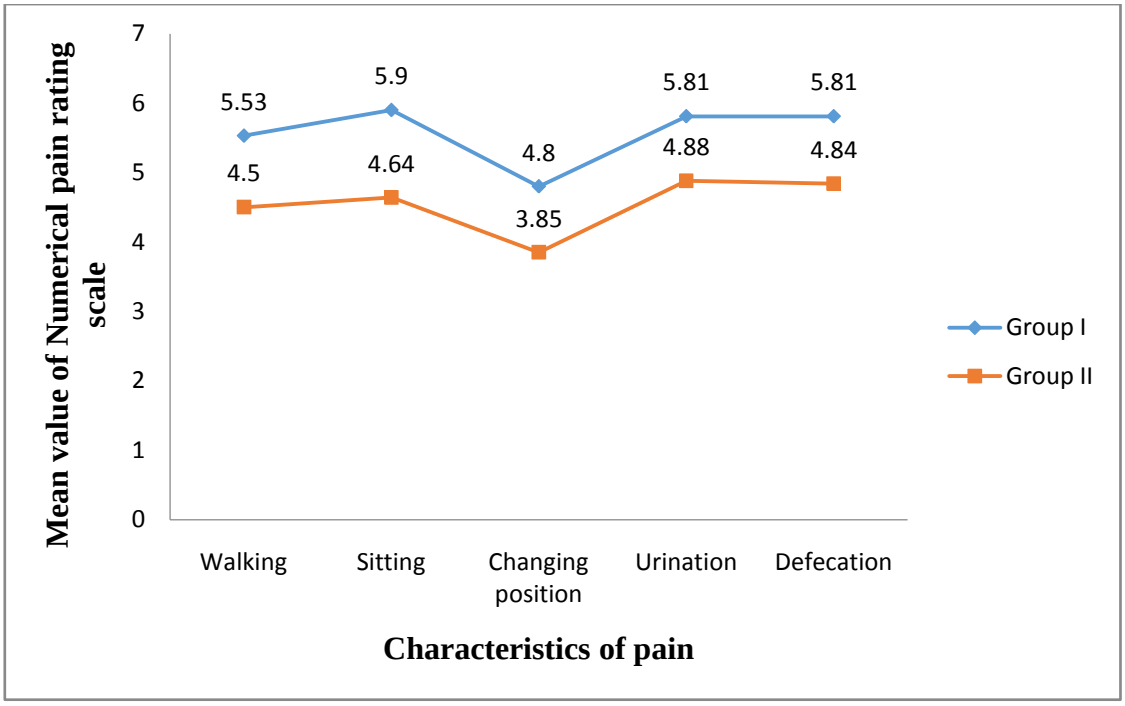

Fig. 4.4.1 Line graph shows the mean value of Numerical pain rating scale regarding episiotomy pain in both experimental group I and II.

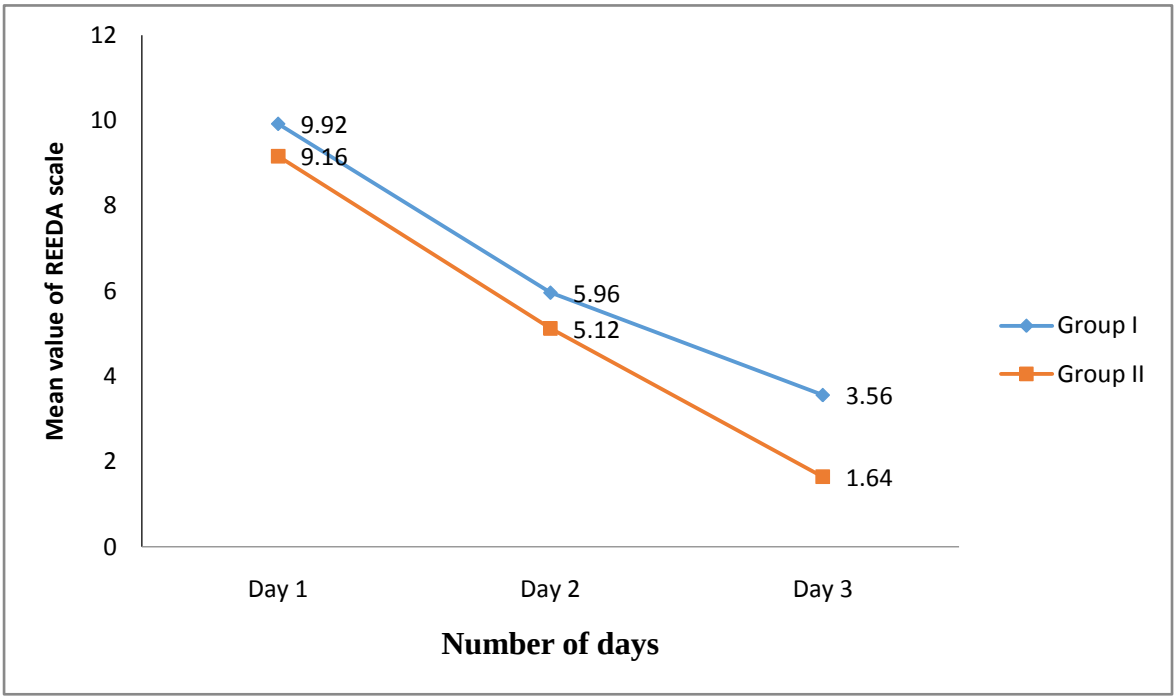

Fig. 4.4.2 Line graph shows the mean value of REEDA scale regarding episiotomy wound healing in both experimental group I and II.

4.5. Correlation between episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery with episiotomy after sitzbath.

H_0: There is no significant relationship between episiotomy pain and wound healing after sitzbath

Table: 4.5.1. Correlation between the posttest level of episiotomy pain and wound healing among postnatal mothers towards Povidone-Iodine sitzbath n=25

Povidone-Iodine sitzbath	Mean ± SD	'r' value	'p' value
Episiotomy pain	9.16 ± 19.36	0.41*	0.396
Episiotomy wound healing	6.8 ± 10		

Note: * Significant at the level of p<0.05

According to table 4.5.1, correlation between the posttest III of episiotomy pain and wound healing towards Povidone-Iodine sitzbath mean is 9.16 and 6.8 with SD of 19.36 and 10. There is moderate positive correlation between episiotomy pain and wound healing towards Povidone-Iodine sitzbath group (Experimental group I). So the null hypothesis rejected.

Table: 4.5.2. Correlation between the posttest level of episiotomy pain and wound healing among postnatal mothers towards Lavender oil sitzbath n=25

Lavender oil sitzbath	Mean ± SD	'r' value	'p' value
Episiotomy pain	2.84 ± 13.36	0.5416*	0.396
Episiotomy wound healing	1.64 ± 7.76		

Note: * Significant at the level of p<0.05

According to table 4.5.1, correlation between the posttest of episiotomy pain and wound healing towards Lavender oil sitzbath mean is 2.84 and 1.64 with SD of 13.36 and 7.76. There is moderate positive correlation between episiotomy pain and wound healing towards Lavender oil sitzbath group (Experimental group II). So the null hypothesis rejected.

4.6. Association between pre-test level of episiotomy pain and wound healing with selected demographic variables among postnatal mothers

H_0: There will not be a significant association between the pre-test level of episiotomy pain and wound healing and selected demographic variables among postnatal mothers, before intervention

Table: 4.6.1. Association between pretest level of episiotomy pain with selected demographic variables

n=50

Demographic variables	Experimental group I n= 25				Experimental group II n= 25				Degree of freedom		Calculated $\chi 2$ value		Tabulated value	
	Moderate Pain		Severe pain		Moderate Pain		Severe Pain		EXP GR I	EXP GR II	EXP GR I	EXP GR II	EXP GR I	EXP GR II
	f	%	f	%	f	%	f	%						
Age (in years)														
18-22 years	2	8	5	20	1	4	1	4	2	2	0.05 NS	1.40 NS	5.99	5.99
23-27 years	3	12	7	28	3	12	14	56						
28-32 years	2	8	6	24	2	8	4	16						
Education														
Secondary	1	4	4	16	2	8	1	4	3	3	2.55 NS	6.90 NS	7.81	7.81
Higher Secondary	1	4	3	12	2	8	3	12						
Graduates	3	12	10	40	1	4	14	56						
Post graduates	2	8	1	4	1	4	1	4						
Occupation														
Private sector	3	12	6	24	3	12	17	68	1	1	0.19 NS	3.44 NS	3.84	3.84
Housewife	4	16	12	48	3	12	2	8						
Type of family														
Nuclear Family	5	20	16	64	5	20	18	72	1	1	1.14 NS	0.80 NS	3.84	3.84
Joint Family	2	8	2	8	1	4	1	4						

Family Income														
Below 10,000	2	8	5	20	2	8	2	8	2	2	2.20 NS	2.92 NS	5.99	5.99
11 30,000	2	8	10	40	3	12	16	64						
31 50,000	3	12	3	12	1	4	1	4						
Area of living														
Urban	3	12	5	20	2	8	2	8	1	1	0.52 NS	1.76 NS	3.84	3.84
Rural	4	16	13	52	4	16	17	68						
Obstetrical Score														
Primi	6	24	14	56	4	16	12	48	1	1	0.19 NS	0.02 NS	3.84	3.84
Multi	1	4	4	16	2	8	7	28						
Mode of Delivery														
Normal Vaginal Delivery	5	20	10	40	5	20	18	72	2	2	0.52 NS	0.80 NS	5.99	5.99
Vacuum Assisted Delivery	2	8	8	32	1	4	1	4						
Previous Delivery														
Previous episiotomy	2	8	3	12	4	16	5	20	1	1	3.22 NS	1.17 NS	3.84	3.84
None	5	20	15	60	2	8	14	56						

Note- NS: Not Significant

It is observed from the table 4.6.1 that the chi square value was lower than the table value for demographic variables age, education, occupation, type of family, family income, area of living, obstetrical score, mode of delivery and previous delivery with the pre-test level of episiotomy pain among postnatal mothers in both experimental group I and II at the level of $p<0.05$. Hence the null hypothesis is accepted.

Table: 4.6.2. Association between pretest level of episiotomy wound healing with selected demographic variables

n=50

Demographic variables	Experimental group I n=25				Experimental group II n=25				Degree of freedom		Calculated $\chi 2$ value		Tabulated value	
	Mild Wound Healing		Poor Wound Healing		Mild Wound Healing		Poor Wound Healing		EXP GR I	EXP GR II	EXP GR I	EXP GR II	EXP GR I	EXP GR II
	F	%	F	%	F	%	F	%						
Age (in years)														
18-22 years	1	4	6	24	1	4	1	4	2	2	1.24 NS	0.73 NS	5.99	5.99
23-27 years	2	8	8	32	4	16	13	52						
28-32 years	3	12	5	20	2	8	4	16						
Education														
Secondary	2	8	3	12	1	4	2	8	3	3	5.59 NS	1.35 NS	7.81	7.81
Higher Secondary	1	4	3	12	2	8	3	12						
Graduates	1	4	12	48	3	12	12	48						
Post Graduates	2	8	1	4	1	4	1	4						
Occupation														
Private	3	12	6	24	2	8	3	12	1	1	0.67 NS	0.44 NS	3.84	3.84
Housewife	3	12	13	52	5	20	15	60						
Type of family														
Nuclear Family	4	16	18	72	6	24	17	68	1	1	3.40 NS	0.52 NS	3.84	3.84
Joint Family	2	8	1	4	1	4	1	4						
Family Income														
10000 Below	2	8	5	20	2	8	2	8	2	2	0.72 NS	1.89 NS	5.99	5.99
11 30,000	2	8	10	40	4	16	15	60						
31 50,000	2	8	4	16	1	4	1	4						
Area of livings														
Urban	3	12	5	20	2	8	2	8	1	1	1.17 NS	1.14 NS	3.84	3.84
Rural	3	12	14	56	5	20	16	64						

Obstetrical Score														
Primi	4	16	16	64	6	24	10	40	1	1	0.87 NS	1.98 NS	3.84	3.84
Multi	2	8	3	12	1	4	8	32						
Mode of Delivery														
Normal vaginal Delivery	3	12	12	48	6	24	17	68	1	1	0.32 NS	0.521 NS	3.84	3.84
Vacuum Assisted Delivery	3	12	7	28	1	4	1	4						
Previous Delivery														
Previous episiotomy	3	12	2	8	3	12	6	24	1	1	0.19 NS	0.52 NS	3.84	3.84
None	3	12	17	68	4	16	12	48						

Note- NS: Not Significant

It is observed from the table 4.6.2. that the chi square value was lower than the table value for demographic variables age, education, occupation, type of family, family income, area of living, obstetrical score, mode of delivery and previous delivery with the pre-test level of episiotomy wound healing among postnatal mothers in both experimental group I and II at the level of $p<0.05$. Hence the null hypothesis is accepted.

CHAPTER V

RESULTS AND DISCUSSION

Episiotomy is an incision made in the perineum during the vaginal delivery to facilitate and expediate delivery and to prevent perineal tear. In women without an elective episiotomy, many experienced perineal laceration requiring surgical repair and the healing process also a significant morbidity in the puerperium.

The sitzbath is an European tradition in which only the pelvis and abdominal area are placed in the water. Interventions proved physiological effect of sitzbath are the thermal and mechanical effect of water plays an important role in administering the curative treatment. This study tried to assess the effectiveness of Povidone-Iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers admitted in PSG Hospitals, Coimbatore. The present study aimed to assess whether the Povidone-Iodine sitzbath and Lavender oil sitzbath has any effects over the episiotomy pain and wound healing and to compare the both treatment.

This chapter deals about the discussion of the study with appropriate Statistical analysis and the finding based on the objectives and hypothesis of the study.

The study was a quasi experimental (Time series design with multiple institution treatment). The problem stated as “A comparative study to assess the effectiveness of Povidone iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers undergone vaginal delivery in tertiary care settings, Coimbatore.

The study was conducted for 50 postnatal mothers in which 25 are assigned as experimental group I (Povidone Iodine sitzbath) and 25 are assigned to experimental group II (Lavender oil sitzbath). Samples were selected by using purposive sampling method (Flip coin method).The study was conducted among the postnatal mothers undergone vaginal delivery in a tertiary care settings, Coimbatore.

Pretest was assessed after 2 hours of vaginal delivery followed by Sitzbath (sitzbath with Povidone Iodine and Lavender oil mixed with 4 liters of warm water with 110 degree F) is given

2 times per day with duration of 20 minutes for every morning and evening (7am and 7pm) till discharge.

Post test was conducted in 24 hours, 48 hours and 72 hours by using Numerical pain rating scale and REEDA scale to assess the episiotomy pain and wound healing among the postnatal mothers.

5.1. Demographic and Obstetrical profile of the mother:

Age of the postnatal mothers experienced with episiotomy ranged from a minimum of 18 years to a maximum of 32 years. The present study shows that 8 (32%) postnatal mothers in the age group of 27-32 years in experimental group I and 6 (24%) postnatal mothers in the age group of 27-32 years in experimental group II. With regard to type of family in experimental group I and II, majority of postnatal mothers 20 (80%) and 16 (64%) were from nuclear family. These findings are similar to another study on effectiveness of Povidone iodine sitzbath versus Lavendr oil sitzbath on episiotomy pain and wound healing, which showed that among 60 postnatal mothers with regard to age in experimental group I and II, 11 (36.6%) and 13 (43.33%) falls between age group of 26-30 years and with regard to type of family majority of postnatal mothers in experimental group I and II 25 (83.33%) and 24 (80%) were from nuclear family.

Regarding educational status, maximum 13 (52%) and 15 (60%) postnatal mothers graduates in experimental group I and II. Among parity, maximum 20 (80%) and 16 (64%) postnatal mothers belongs to primi gravida. These findings are similar to another study on effectiveness of Lavender oil sitz bath on episiotomy wound healing among postnatal mothers showed that among 60 postnatal mothers 29 (48.3%) postnatal mothers were graduates and among parity 40 (66.7%) mothers were primi gravida.

Among 50 postnatal mothers all of them (100%) had mediolateral episiotomy in both experimental group I and II and majority of the mother had 5-6 cm length of episiotomy in both experimental group I (36%) and group II (84%). These results are supported by another study on effectiveness of medicated sitzbath and non-medicated sitzbath on episiotomy healing among 46 postnatal mothers, showed that all of them (100%) had mediolateral episiotomy and most of

them had 4-6 cm length of episiotomy in experimental group I (30%) and experimental group II (73%).

5.2. Assessment of episiotomy pain and wound healing among postnatal mothers.

In the pre test of episiotomy pain in experimental group I and II was 7 (28%) and 8 (32%) mothers had moderate pain. These findings are similar to another study on effectiveness of Povidone iodine sitzbath versus Lavendr oil sitzbath on episiotomy pain and wound healing, which showed that among 60 postnatal mothers 12 (40%) and 8 (26.67%) had moderate pain in experimental group I and II.

Whereas on the post test 2 (8%) mothers in experimental group I and 22 (88%) mothers in experimental group II had mild pain. These findings are similar to another study on effectiveness of hot application on episiotomy wound healing and pain among postnatal mothers which showed that among 60 postnatal mothers, 21 (70%) mothers had mild pain in experimental group whereas in control group 17 (56.6%) mothers had mild pain.

In the pre test of episiotomy wound healing in experimental group I and II 19 (76%) and 18 (72%) mothers had poor wound healing. Whereas in the post test in experimental group I and II 19 (76%) and 25 (100%) mothers had moderate wound healing. These findings are similar to another study on effectiveness of Lavender oil sitz bath on episiotomy wound healing among postnatal mothers showed that among 60 postnatal mothers, 46 (76.6%) mothers had severe infection in the experimental group whereas in control group 44 (73.3%) mothers had severe infection. In posttest showed that 46 (76.6%) mothers had mild infection in control group and in experimental group 60 (100%) mothers had mild infection.

5.3. Effectiveness of Povidone iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing between experimental group I and II

5.3.1 Effectiveness of Povidone iodine sitzbath on episiotomy pain and wound healing. (Experimental group I)

The present study revealed that the calculated 't' value is greater than the table value 2.064 at the level of $p<0.05$ in episiotomy pain and in wound healing the mean and standard

deviation is 19.44 ± 2.52. This results shows that Povidone-Iodine sitzbath was effective in reducing pain and promoting wound healing among postnatal mothers undergone vaginal delivery with episiotomy.

These findings are similar to another study on effect of Povidone Iodine sitzbath on episiotomy wound healing and reducing pain among 60 postnatal mothers, which showed that level of episiotomy pain in experimental group, the mean value with SD is 3± 2.66 and in control group has 4.73± 3.28. In wound healing the mean and SD is 1.1±0.83 and in control group 1.766 ± 0.918 and the calculated t value is greater than table value at the level of $p<0.05$. It showed that the Povidone-Iodine sitzbath has significant effect on episiotomy pain reduction and wound healing.

5.3.2 Effectiveness of Lavender oil sitzbath on episiotomy pain and wound healing. (Experimental group II)

The present study revealed that in episiotomy pain the calculated 't' value is greater than the table value 2.064 at the level of $p<0.05$ and in wound healing the mean and standard deviation is 15.92 ± 2.3. The present study concluded that Lavender oil sitzbath enhances the rapid episiotomy wound healing and reduces the pain and occurrence of infection in the episiotomy wound.

These findings are similar to another study on effect of Lavender oil sitzbath on episiotomy pain and wound healing among 60 postnatal mothers, which showed that level of episiotomy pain in experimental group, the mean value with SD is 5.39± 1.2 and in control group has 6.97±0.7. In wound healing the mean and SD is 2.72±0.82 and in control group 11.26 ± 0.67 and the calculated t value is greater than table value at the level of $p<0.05$. This result showed that use of Lavender oil for episiotomy pain and wound healing is effective.

5.4. Compare the effectiveness of Povidone iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers.

The current study reveals the compare the effectiveness between two experimental group based on posttest. In that the experimental group I has the overall posttest of mean value with standard deviation in episiotomy pain is 5.5700±0.4524 and in experimental group II has 4.5420

± 0.4163 and calculated ‘t’ value is 3.7389 which is greater than the table value(1.860). Based on above value founded that Lavender oil sitzbath have the significant effects over the episiotomy pain compared to Povidone-Iodine sitzbath.

These findings supported by another study findings on effectiveness of Povidone iodine sitzbath versus Lavendr oil sitzbath on episiotomy pain and wound healing among 60 postnatal mothers, the overall posttest of episiotomy pain has the mean value with standard deviation is 3± 2.66 in experimental group I whereas in experimental group II the mean value with standard deviation is 4.73± 3.28 and calculated t value is 4.73 which is greater than table value. Hence, it concluded that Lavender oil sitzbath is effective in reducing episiotomy pain.

The current study reveals that in experimental group I has the overall posttest of mean value with standard deviation in wound healing is 6.48± 0.84 whereas in experimental group II is 5.30 ± 0.76 and calculated t value is 4.108which is greater than the table value (2.132). The results shows that the Lavender oil sitzbath was effective compared to Povidone-Iodine sitzbath and its helps to improve pelvic circulation, helps for better wound healing and also effective in lessening the discomfort associated with episiotomy.

These results are strongly supported by another study on effectiveness of Povidone iodine sitzbath versus Lavendr oil sitzbath on episiotomy pain and wound healing, showed that among 60 postnatal mothers, regarding wound healing the overall posttest of mean value with standard deviation is 1.1 ± 0.83 in experimental group I whereas in experimental group II the overall mean value with standard deviation is 1.776 ± 0.918 and calculated t value is 2.9210 which is greater than table value. Hence, it concluded that Lavender oil sitzbath is effective in promoting wound healing.

5.5. Correlation between episiotomy pain and wound healing after sitzbath among postnatal mothers

In experimental group I the mean value of episiotomy pain with standard deviation is 9.16±19.36 and in wound healing the mean value with standard deviation is 6.8±10 and the correlation ‘r’ = 0.41. In experimental group II the mean value of episiotomy pain with standard deviation 2.84±13.36 and in wound healing the mean value with standard deviation is 1.64±7.76

and the correlation ‘r’ = 0.5416. The results are significant at the level of $p<0.05$. These results showed that the episiotomy pain and wound healing were significantly correlate with each other. It showed that the episiotomy pain will be more while the wound healing is poor.

This study was strongly supported by another study on effectiveness of hot application on episiotomy wound healing and pain, showed that the mean value of episiotomy wound healing with standard deviation is 4.8 ± 1.7397 and the mean value of pain with standard deviation is 3.8333±1.4395 and the correlation ‘r’ = 0.8 in experimental group whereas in control group the mean value of wound healing with standard deviation is 6±3.8122 and the mean value of pain with standard deviation is 4.0666 ± 2.1359 and the correlation ‘r’ = 0.4. It revealed that there was a positive and moderately significant correlation between the pain and wound healing.

5.6. Association between the level of episiotomy pain and wound healing among postnatal mothers with their selected demographic variables.

The Present study shows that there was no significant association between pre test level of episiotomy pain and wound healing score with demographic variables among postnatal mothers undergone vaginal delivery in both experimental group I and II at the level of $p<0.05$. Hence the null hypothesis is accepted.

These findings are contradicted by another study on effectiveness of Povidone iodine sitzbath versus Lavendr oil sitzbath on episiotomy pain and wound healing, showed that there was an significant association between post test level of episiotomy pain and wound healing score with selected demographic and clinical variables such as Occupation, Type of family, Area of residence, Dietary pattern and parity among postnatal mothers undergone normal vaginal delivery in both experimental group I and II at the level of $p<0.05$.

CHAPTER VI

SUMMARY AND CONCLUSION

The present study was conducted to assess the effectiveness of Povidone-Iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers.

The design was quasi experimental - time series design with multiple institution treatment. A total 50 postnatal mothers (25postnatal mothers in experimental group I) and (25 postnatal mothers in experimental group II) who meet the inclusion criteria were selected as samples from the tertiary care setting, Coimbatore. The samples were selected by using purposive (Flip coin method) sampling technique. The investigator first introduced herself to the samples and developed rapport with them. After the selection of samples, the interview was being conducted with the instrument.

In the post test of experimental group I wound healing level was 22(73.33%) mothers had mild wound healing and 8 (26.66%) mothers had moderate wound healing. In pain 21 (70%) mothers had mild pain and 9 (30%) mothers had moderate pain. Where as in experimental group II 16 (53.33%) mothers had mild wound healing, 8 (26.66%) mothers had moderate wound healing and 6 (20%) mothers had severe wound healing. In pain 17(56.66%) mothers had mild pain, 7(23.33%) mothers had moderate pain and 6(20%) mothers had severe pain.

There was a significant difference between pre-test and post-test mean score of episiotomy pain and wound healing among postnatal mothers in both experimental group I and II which was calculated by using “Paired ‘t’ test”.

The statistical analysis for the comparison of episiotomy pain and wound healing in experimental group I and II was calculated by using “Independent ‘t’ test” was revealed that there is significant difference in post-test pain and wound healing for the experimental group I and II.

Correlation between episiotomy pain and wound healing after sitzbath among postnatal mothers in both experimental group I and II was calculated by using “Karl Pearson correlation”

method was revealed that there is moderate positive correlation between episiotomy pain and wound healing towards experimental group I and II.

The statistical analysis to determine the association between the pre-test severity of episiotomy pain and wound healing regarding Povidone-Iodine sitzbath and Lavender oil sitzbath among the postnatal mothers with their selected demographic variables was calculated by using "Chi square test". The results were stated that in experimental group I and II towards episiotomy pain and wound healing there is no significant association between age, education, occupation, marital status, type of family, family income, area of living, obstetrical score, medical problems, mode of delivery and previous delivery.

6.1 Major Findings of the Study:

- Among 25 postnatal mothers in experimental group I, most of them 10 (40%) and in experimental group II, 17 (68%) postnatal mothers were in age group of 23-27 years.

- Among 25 postnatal mothers in experimental group I, most of them 16 (64%) and in experimental group II 20 (80%) were housewife.

- Regarding parity, maximum 20 (80%) postnatal mothers in experimental group I and 16 (64%) postnatal mothers are belongs to primigravida. Whereas in experimental group I, 15 (60%) postnatal mothers and in experimental group II, 23 (96%) postnatal mothers were undergone normal vaginal delivery.

- Majority of the postnatal mothers in experimental group I 18 (72%) and in experimental group II 17 (68%) had severe pain before intervention. On the 3rd day of post-test (92%) postnatal mothers in experimental group I had moderate pain, whereas in experimental group II (88%) had mild pain.

- Among 25 postnatal mothers in each group, majority of the postnatal mothers in experimental group I (76%) and in experimental group II (72%) had poor wound healing before intervention. On the 3rd day of post-test (76%) postnatal mothers in experimental group I and in experimental group II (100%) had moderate wound healing.

- The statistical analysis revealed that, effectiveness of Povidone-Iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing results showed that there was a significant difference between pretest and posttest mean score and the calculated 't' value which is greater than the table value 2.064 at the level of $p<0.05$ in both experimental group I and II. Hence it concluded that both the intervention was effective.

- The statistical analysis revealed that, compare the effectiveness of Povidone-Iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing results showed that the overall mean with SD (4.5420 ± 0.4163, 5.30 ± 0.76) is in experimental group II which is lesser than the mean with SD of (5.5700 ± 0.4524, 6.48 ± 0.84) experimental group I. Thus the study results strongly supported that Lavender oil sitzbath is effective to reduce the episiotomy pain and promote wound healing when compared to Povidone-Iodine sitzbath.

- The correlation between the episiotomy pain and wound healing among postnatal mothers in experimental group I $r = 0.41$ and in experimental group II $r = 0.5416$ after intervention. Results showed that there was an moderately positive correlation between episiotomy pain and wound healing and significant at the level of $p<0.05$ in experimental group I and II.

- There was no association between demographic variables and the pre-test level of episiotomy pain and wound healing among postnatal mothers.

6.2 Conclusion

The main objective of the study was to determine the effectiveness of Povidone-Iodine sitzbath versus Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers. The study concluded that Lavender oil sitzbath has significant in reducing episiotomy pain and promoting wound healing thereby improving their physical well being among postnatal mothers who undergone vaginal delivery compared to Povidone-Iodine sitzbath. The selected postnatal mothers became familiar and found themselves comfortable and also expressed satisfaction.

6.3 Nursing Implication

The findings of the study have certain important implications for the nursing services, education, administration, and nursing research.

Nursing Service

- Although all pregnant mothers may not end up having episiotomy at the time of delivery, however, educating the mothers regarding use and advantages of sitzbath in the postnatal period can promote perineum recuperation.
- Encourage the staff nurses working in the OG ward to use Lavender oil sitzbath for postnatal mothers with episiotomy to provide comfort and promote wound healing.

Nursing Education

- Educating the nursing personnel, non nursing personnel and the public through in service or continuing programme to update their knowledge and skills in educating the mothers regarding Lavender oil sitzbath and its benefits.
- Benefits of Lavender oil on episiotomy wound healing can be included in the complementary therapies in nursing curriculum.
- Nurse educators should orient the nurses and students towards various forms of interventions for episiotomy pain and wound healing.

Nursing Research

- The study can be conducted in various forms of lavender preparations like lavender cream and lavender soap to bring about newer perspectives in nursing care.
- More study need to be conducted by measuring more different variables of episiotomy wound healing.
- Nurse researcher should challenge to perform scientific work and take part in assessment, applications, evaluation of complementary therapies in mothers with episiotomy.

Nursing Administration

- In-service education program can be organize for staff nurses and nursing assistance who are working in the labor and obstetric and gynecology ward on Lavender oil sitzbath
- Provide adequate facilities to the postnatal mothers to take sitzbath independently by using lavender oil.
- Communicate the effectiveness of Lavender oil sitzbath for the management of episiotomy pain wound healing and introducing the protocol for effective practice.
- Nurse administrators can prepare written policies and protocols regarding care of mothers with episiotomy.

6.4 Limitations

- ❖ Limited sample size and less time so it cannot be generalized
- ❖ Analgesics consumed by the group so that the episiotomy wound pain and comfort level cannot be generalized.

6.5 Suggestions

- ❖ The same study can be conducted with control group
- ❖ Long term study can be conducted to assess the episiotomy healing on high risk cases
- ❖ More researchers need to be undertaken to compare the effectiveness of Lavender oil sitzbath with other treatments used in episiotomy wound healing.

6.6 Recommendations for future study

- ➢ A follow up study regarding the practice of sitzbath in the ward settings
- ➢ The comparative study can also be done to assess the effectiveness of Lavender oil among the normal postnatal mothers and high risk mothers.
- ➢ A comparative study can be conducted between primiparous women and multiparous women to assess the effectiveness of Lavender oil sitzbath.
- ➢ The study can be done on larger sample on a long-term basis to generalize the effectiveness of Lavender oil sitzbath.

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ANNEXURE-I

From

Ms. Anitha.P,

M. Sc Nursing I Year,

PSG College of Nursing,

Coimbatore – 04.

To

Member-Secretary,

Institutional Human Ethics Committee,

PSG Institute of Medical Sciences & Research,

Coimbatore – 04.

Madam,

Sub: Ethical review of study proposal by IHEC – request for – reg.

I hereby enclosed all answers for ethical review questions.

Title of the proposed study:

A Comparative Study To Assess The Effectiveness Of Povidone-Iodine Sitzbath versus Lavender oil Sitzbath on Episiotomy pain and wound healing Among Postnatal mothers undergone Normal Vaginal Delivery In a Tertiary care setting, Coimbatore.

Name of the Principal Investigator: Ms.Anitha.P

Thanking you,

Date: 12/07/17

Signature of Principal Investigator

Signature of Research Guide

PSG COLLEGE OF NURSING, COIMBATORE-4.

Ref.No: CN/I/103/17

Date: 04.07.2017

To

The Dean
PSG IMSR&H
Peelamedu
Coimbatore.

Respected Sir,

Sub: Permission to conduct research req.reg

Warm Greetings!

This is to inform you that Ms. Anitha. P, I year M.Sc Nursing student of our College of Nursing, Coimbatore is planning to conduct a study on

"A Study to Assess the Effectiveness of Povidone – Iodine Sitzbath Versus Lavender Oil Sitzbath on Episiotomy Pain and Wound Healing among Postnatal Mothers Undergone Normal Vaginal Delivery in a Teritary Care Setting, Coimbatore"

as part of M.Sc(N) research requirement to be submitted at The Tamilnadu Dr. M.G.R Medical University, Chennai.

Kindly grant her permission for conducting pilot & Main study in our Hospital. We assure you that the study will be conducted without disturbing the routine activities of the Hospital.

Thanking you,

4/7/17

Dr. A. JAYASUDHA
PRINCIPAL

PSG COLLEGE OF NURSING
Peelamedu
COIMBATORE-4

Cc to: The HOD, Postnatal ward
The Nursing Superintendent

From

Ms. Anitha.P,
M.Sc Nursing I Year,
PSG College of Nursing,
Coimbatore – 04.

To

The HOD of OBG Department,
PSG Hospitals,
Coimbatore – 04.

Respected Madam,

Sub: Seeking permission to carry out the study among

Postnatal mothers at PSG Hospital , Postnatal ward.

I Ms.Anitha.P, I year M.Sc Nursing student is interested in doing this study. "A **COMPARATIVE STUDY TO ASSESS THE EFFECTIVENESS OF POVIDONE-IODINE SITZBATH VERSUS LAVENDER OIL SITZBATH ON EPISIOTOMY PAIN AND WOUND HEALING AMONG POSTNATAL MOTHERS UNDERGONE NORMAL VAGINAL DELIVERY IN A TERTIARY CARE SETTING, COIMBATORE".** Kindly grant me permission to carry out the study in PSG Hospital, Postnatal ward. We assure you that the study will be conducted without disturbing the routine activities of the hospital.

Thank you,

Date:

Yours sincerely:

Place: Coimbatore.

Ms. Anitha.P,

M. Sc Nursing I-year.

Permitted

Signature of the HOD of OBG Department:

ANNEXURE-II

PSG Institute of Medical Sciences & Research
Institutional Human Ethics Committee

Recognized by The Strategic Initiative for Developing Capacity in Ethical Review (SIDCER)
POST BOX NO. 1674, PEELAMEDU, COIMBATORE 641 004, TAMIL NADU, INDIA
Phone : 91 422 - 2598822, 2570170, Fax : 91 422 - 2594400, Email : ihec@psgimsr.ac.in

Ms Anitha P
I M Sc Nursing
Guide/s: Prof. Sree Renjini / Dr G Malarvizhi
PSG College of Nursing
Coimbatore

Ref: Project No.17/232

Date: August 30, 2017

Dear Ms Anitha,

Institutional Human Ethics Committee, PSG IMS&R reviewed and discussed your application dated 21.07.2017 to conduct the research study entitled "A comparative study to assess *the effectiveness of Povidone-Iodine Sitzbath versus Lavender oil Stizbath on episiotomy pain and wound healing among postnatal mothers undergone normal vaginal delivery in a tertiary care setting, Coimbatore*" during the IHEC meeting held on 18.08.2017.

The following documents were reviewed and approved:

1. Project submission form
2. Study protocol (Version 1 dated 21.07.2017)
3. Informed consent forms (Version 1 dated 21.07.2017)
4. Data collection tool (Version 1 dated 21.07.2017)
5. Pernission letter from the Dean and concerned Head of the Department
6. Current CVs of Principal investigator, Co-investigator
7. Budget

The following members of the Institutional Human Ethics Committee (IHEC) were present at the meeting held on 18.08.2017 at IHEC Secretariat, PSG IMS & R between 10.00 am and 11.00 am:

Sl. No.	Name of the Member of IHEC	Qualification	Area of Expertise	Gender	Affiliation to the Institution Yes/No	Present at the meeting Yes/No
1	Mr R Nandakumar (Chairperson, IHEC)	BA., BL	Legal Expert	Male	No	Yes
2	Dr. S. Bhuvaneshwari (Member-Secretary, IHEC)	MD	Clinical Pharmacology	Female	Yes	Yes
3	Dr S Shanthakumari	MD	Pathology	Female	Yes	Yes
4	Dr Sudha Ramalingam	MD	Epidemiologist Alt. member-Secretary	Female	Yes	Yes
5	Dr D Vijaya	M Sc., Ph D	Basic Medical Sciences (Biochemistry)	Female	Yes	Yes

The study is approved in its presented form. The decision was arrived at through consensus. Neither PI nor any of proposed study team members were present during the decision making of the IHEC. The IHEC functions in accordance with the ICH-GCP/ICMR/Schedule Y guidelines. The approval is valid until one year from the date of sanction. You may make a written request for renewal / extension of the validity, along with the submission of status report as decided by the IHEC.

PSG Institute of Medical Sciences & Research
Institutional Human Ethics Committee

Recognized by The Strategic Initiative for Developing Capacity in Ethical Review (SIDCER)
POST BOX NO. 1674, PEELAMEDU, COIMBATORE 641 004, TAMIL NADU, INDIA
Phone : 91 422 - 2598822, 2570170, Fax : 91 422 - 2594400, Email : ihec@psgimsr.ac.in

Following points must be noted:

1. IHEC should be informed of the date of initiation of the study
2. Status report of the study should be submitted to the IHEC every 12 months
3. PI and other investigators should co-operate fully with IHEC, who will monitor the trial from time to time
4. At the time of PI's retirement/intention to leave the institute, study responsibility should be transferred to a colleague after obtaining clearance from HOD, Status report, including accounts details should be submitted to IHEC and extramural sponsors
5. In case of any new information or any SAE, which could affect any study, must be informed to IHEC and sponsors. The PI should report SAEs occurred for IHEC approved studies within 7 days of the occurrence of the SAE. If the SAE is 'Death', the IHEC Secretariat will receive the SAE reporting form within 24 hours of the occurrence
6. In the event of any protocol amendments, IHEC must be informed and the amendments should be highlighted in clear terms as follows:
   a. The exact alteration/amendment should be specified and indicated where the amendment occurred in the original project. (Page no. Clause no. etc.)
   b. Alteration in the budgetary status should be clearly indicated and the revised budget form should be submitted
   c. If the amendments require a change in the consent form, the copy of revised Consent Form should be submitted to Ethics Committee for approval
   d. If the amendment demands a re-look at the toxicity or side effects to patients, the same should be documented
   e. If there are any amendments in the trial design, these must be incorporated in the protocol, and other study documents. These revised documents should be submitted for approval of the IHEC and only then can they be implemented
   f. Any deviation-Violation/waiver in the protocol must be informed to the IHEC within the stipulated period for review
7. Final report along with summary of findings and presentations/publications if any on closure of the study should be submitted to IHEC

Kindly note this approval is subject to ratification in the forthcoming full board review meeting of the IHEC.

Thanking You,

Yours Sincerely,

SECRETARY
PSG IMS&R
COIMBATORE-641004.
INSTITUTIONAL HUMAN ETHICS COMMITTEE

Dr S Bhuvaneshwari
Member - Secretary
Institutional Human Ethics Committee

ANNEXURE-III

PSG Institute of Medical Science and Research, Coimbatore
Institutional Human Ethics Committee
INFORMED CONSENT FORMAT FOR RESEARCH PROJECTS

I Ms. Anitha.P carrying out a study on the topic: A Comparative Study To Assess The Effectiveness Of Povidone-Iodine Sitzbath versus Lavender oil Sitzbath on Episiotomy pain and wound healing Among Postnatal mothers undergone Normal Vaginal Delivery In a Tertiary Care setting, Coimbatore.

as part of my / our research project being carried out under the aegis of the Department of: Maternity Nursing.

(*Applicable to students only*): My / our research guide is: Prof. Sree renjini. B

The justification for this study is: Episiotomy is more common among mothers who undergone the Normal Vaginal Delivery. There are several common methods used for reducing pain and accelerating the episiotomy-healing process. Nonsteroidal anti-inflammatory drugs are among the typical medications used to reduce episiotomy pain, though they may cause some side effects such as peptic ulcers. Betadine (Iodine) is also commonly used to prevent infection and help with healing of the episiotomy wound. However, various studies show that it has no significant effect on microorganism-reduction. Many women find the current available methods unsatisfactory and are looking for other effective and safe options.

Only a few studies have been conducted on the care of this very common wound. Some studies have examined the effects of herbal remedies such as lavender Oil on episiotomy pain and healing. However, definitive effects of these methods have not been verified through clinical trials, and more extensive studies are still required in this area.

The objectives of this study are:

- To assess the episiotomy pain and wound healing among postnatal mothers.
- To assess the effectiveness of Povidone-Iodine Sitzbath on Episiotomy pain and
- wound healing. **(Experimental group I)**
- To assess the effectiveness of Lavender oil Sitzbath on Episiotomy pain and wound healing. **(Experimental group II).**
- To compare the effectiveness of povidone-Iodine sitzbath and Lavender oil sitzbath on episiotomy pain and wound healing among postnatal mothers.
- To determine the association between the pre test severity of episiotomy pain and wound healing among postnatal mothers with their selected demographic variables.

Sample size: 50

Study volunteers / participants are (specify population group & age group): Postnatal mothers who undergone normal vaginal delivery with Episiotomy who fulfill inclusion criteria from PSG Hospital, Postnatal ward.

Location: PSG Hospital, Coimbatore.

We request you to kindly cooperate with us in this study. We propose collect background information and other relevant details related to this study. We will be carrying out:

Initial interview (specify approximate duration): 5 minutes.

Data collected will be stored for a period of 3 years. We will / will not use the data as part of another study.

Health education sessions: Number of sessions: Not applicable

Approximate duration of each session: Not applicable

Clinical examination (Specify details and purpose): Numerical Pain Rating Scale used to assess the intensity of pain and REEDA Scale used to assess the Episiotomy Wound healing.

Blood sample collection: Not applicable

Medication given, if any, duration, side effects, purpose, benefits: Not applicable

Final interview (specify approximate duration): 15 minutes.

Benefits from this study: To compare the effectiveness of Povidone-Iodine Sitzbath and Lavender oil Sitzbath in reducing episiotomy pain and promoting wound healing.

Risks involved by participating in this study: No risk.

How the **results** will be used:
1. To perform evidence based practice
2. Submission in the thesis.
3. To publish in the journals and conference presentation.

If you are uncomfortable in answering any of our questions during the course of the interview / biological sample collection, **you have the right to withdraw from the interview / study at anytime.** You have the freedom to withdraw from the study at any point of time. Kindly be assured that your refusal to participate or withdrawal at any stage, if you so decide, will not result in any form of compromise or discrimination in the services offered nor would it

attract any penalty. You will continue to have access to the regular services offered to a patient. You will **NOT** be paid any remuneration for the time you spend with us for this interview / study. The information provided by you will be kept in strict confidence. Under no circumstances shall we reveal the identity of the respondent or their families to anyone. The information that we collect shall be used for approved research purposes only. You will be informed about any significant new findings - including adverse events, if any, – whether directly related to you or to other participants of this study, developed during the course of this research which may relate to your willingness to continue participation.

Consent: The above information regarding the study, has been read by me/ read to me, and has been explained to me by the investigator/s. Having understood the same, I hereby give my consent to them to interview me. I am affixing my signature / left thumb impression to indicate my consent and willingness to participate in this study (i.e., willingly abide by the project requirements).

Signature / Left thumb impression of the Study Volunteer / Legal Representative:

Signature of the Interviewer with date: Witness:

Contact number of PI: 9842022904

Contact number of Ethics Committee Office: 0422 4345818

பூ சா கோ மருத்துவக் கல்லூரி மற்றும் ஆராய்ச்சி நிறுவனம், கோவை

மனித நெறிமுறைக் குழு

ஒப்புதல் படிவம்

பெ.அனிதா ஆகிய நான் பூ சா கோ மருத்துவக் கல்லூரியின்/ மருத்துவமனையின் மகப்பேறு துறையின் கீழ் சுகப்பிரசவத்திற்கு பிறகு உள்ள தாய்மார்களுக்கு எபிசியாட்டமி அறுவையால் ஏற்படும் வலி மற்றும் காயத்திற்கு போவிடோன் அயோடின் சிட்ஸ்பாத் பயனுள்ளதா அல்லது லாவெண்டர் எண்ணெய் சிட்ஸ்பாத் பயனுள்ளதா என்ற தலைப்பில் ஆய்வு மேற்கொள்ள உள்ளேன்.

என் ஆய்வு வழிகாட்டி (மாணவர்களுக்கு மட்டும்) : திருமதி பேராசிரியர் ஸ்ரீரஞ்சனி.B

ஆய்வு மேற்கொள்வதின் அடிப்படை :

பெரும்பாலான தாய்மார்களுக்கு சுகப்பிரசவத்தின் போது பிறப்பு கால்வாய் விரிவடைவதற்கு எபிசியாட்டமி அறுவை செய்யப்படுகிறது. பொதுவாக எபிசியாட்டமி அறுவைக்கு பிறகு ஏற்படும் வலி மற்றும் காயமானது தாய்மார்களிடம் மிகுந்த தாகத்தை ஏற்படுத்தி வருகிறது இதனால் எபிசியாட்டமி அறுவைக்கு பின்பு ஏற்படும் வலியை குறைப்பதற்கும் மற்றும் காயங்களை ஆற்றுவதற்கு உண்டான மாற்று சிகிச்சையின் அவசியமும் அதிகரித்து வருகிறது.

ஆய்வின் நோக்கம் :

- போவிடோன் அயோடின் சிட்ஸ்பாத் லாவெண்டர் மற்றும் எண்ணெய் சிட்ஸ்பாத் கொடுப்பதற்கு முன்பும் பின்பும் உள்ள வலி மற்றும் காயத்தின் அளவை ஒப்பிடுதல்
- ஆய்விற்கு உட்படும் இரு குழுவினருக்கும் இடையில் உள்ள வலியின் அளவையும் மற்றும் காயம் குணமடையும் அளவையும் ஒப்பிடுதல்

ஆய்வில் பங்குபெறும் நபர்களின் எண்ணிக்கை : 50

ஆய்வில் பங்குபெறுவோர் மற்றும் வயது : சுகப்பிரசவத்திற்கு பிறகு உள்ள தாய்மார்கள்

ஆய்வு மேற்கொள்ளும் இடம் : பூ சா கோ மருத்துவமனை

ஆய்வு செய்யப்படும் முறை : கேள்வி கேட்டல் / வினா வினவுதல் (அடிப்படை தகவல்கள் குறித்து)

முதன்மை நேர்காணல் : 5 நிமிடங்கள்

இந்த ஆய்வில் கிடைக்கும் தகவல்கள் 3 வருடங்கள் பாதுகாக்கப்படும். இந்த தகவல்கள் வேறு ஆய்விற்கு பயன்படுத்தப்படும்/ பயன்படுத்தப்படமாட்டாது

ஆய்வில் பங்கு பெறுவதால் ஏற்படும் பலன்கள் :

போவிடோன் அயோடின் சிட்ஸ்பாத் லாவெண்டர் மற்றும் எண்ணெய் சிட்ஸ்பாத் கொடுப்பதன் மூலம் எபிசியாட்டமி அறுவைக்கு பின்பு ஏற்படும் வலியின் தன்மையை குறைத்தல் மற்றும் காயங்களின் குணமடையும் அளவை அதிகரித்தல்

ஆய்வில் பங்கேற்பதால் ஏற்படும் அசௌகரியங்கள் / பக்க விளைவுகள் :

ஏதுமில்லை

ஆய்வின் முடிவுகள் எந்த முறையில் பயன்படுத்தப்படும் ?

இந்த ஆய்வின் கேள்விகளுக்கு பதிலளிப்பதிலோ,இரத்த மாதிரிகள் அல்லது திசு எடுப்பதிலோ உங்களுக்கு எதேனும் அசௌகரியங்கள் இருந்தால் எந்த நேரத்தில் வேண்டுமானாலும் ஆய்விலிருந்து விலகிக்கொள்ளும் உரிமை உங்களுக்கு உண்டு.எப்பொழுது வேண்டுமானாலும் ஆய்விலிருந்து விலகிக்கொள்ளும் உரிமை உங்களுக்கு உண்டு. ஆய்விலிருந்து விலகிக்கொள்வதால் உங்களுக்கு அளிக்கப்படும் சிகிச்சை முறையில் எந்த வித பாதிப்பும் இருக்காது என்று உங்களுக்கு உறுதியளிக்கிறோம்.மருத்துவ மனையில் நோயாளிகளுக்கு அளிக்கப்படும் சேவைகளை நீங்கள் தொடர்ந்து பெறலாம். இந்த ஆய்வில் பங்கேற்க ஒப்புகொள்வதால் வேறு எந்த விதமான கூடுதலான பலனும் உங்களுக்குக் கிடைக்காது. நீங்கள் அளிக்கும் தகவல்கள் இரகசியமாக வைக்கப்படும்.ஆய்வில் பங்கேற்பவர்கள் பற்றியோ அவர்கள் குடும்பத்தை பற்றியோ எந்தத் தகவலும் எக்காரணம் கொண்டும் வெளியிடப்படாது என்று உறுதியளிக்கிறோம். நீங்கள் அளிக்கும் தகவல்கள்/ இரத்த மாதிரிகள்/ திசு மாதிரிகள் அங்கீகரிக்கப்பட்ட ஆய்விற்கு மட்டுமே பயன்படுத்தப்படும். இந்த ஆய்வு நடைபெறும் காலத்தில் குறிப்பிடத்தகுந்த புதிய கண்டுபிடிப்புகள் அல்லது பக்க விளைவுகள் ஏதும் ஏற்பட்டால் உங்களுக்கு தெரிவிக்கப்படும். இதனால் ஆய்வில் தொடர்ந்து பங்கு பெறுவது பற்றிய உங்கள் நிலைப்பாட்டை நீங்கள் தெரிவிக்க ஏதுவாகும்.

ஆய்வுக்குட்படுபவரின் ஒப்புதல் :

இந்த ஆய்வை பற்றிய மேற்கூறிய தகவல்களை நான் படித்து அறிந்து கொண்டேன்/ஆய்வாளர் படிக்கக் கேட்டுத் தெரிந்து கொண்டேன். ஆய்வினைப் பற்றி நன்றாகப் புரிந்து கொண்டு இந்த ஆய்வில் பங்கு பெற ஒப்புக்கொள்கிறேன். இந்த

ஆய்வில் பங்கேற்பதற்கான எனது ஒப்புதலை கீழே கையொப்பமிட்டு / கை ரேகை பதித்து நான் தெரிவித்துக்கொள்கிறேன்.

பங்கேற்பாளரின் பெயர்,முகவரி :

பங்கேற்பாளரின் கையொப்பம்/ கை ரேகை/ சட்ட பூர்வ பிரதிநிதியின் கையொப்பம் :

தேதி :

ஆய்வாளரின் கையொப்பம் :

தேதி :

ஆய்வாளரின் தொலைபேசி எண் : 9842022904

மனித நெறிமுறைக் குழு அலுவலகத்தின் தொலைபேசி எண் : **0422 4345818**

ANNEXURE IV

SECTION-A

DEMOGRAPHIC DATA

1) Sample No:
2) Age of the Mother:
3) Education:
4) Occupation:
5) Marital status:
6) Type of family:
    a) Nuclear Family
    b) Joint Family
    c) Extended Family
7) Family income
    a) Below 10,000
    b) 11,000- 30,000
    c) 31,000- 50,000
    d) Above 50,000
8) Area of Living
    a) Urban area
    b) Rural area
9) Obstetrical Score : G P L A
10) Any known medical problems
    a) Yes
    b) No

    If yes, specify the problem and treatment

11) Mode of Delivery:

    a) Normal vaginal delivery
    b) Forceps Delivery
    c) Vacuum assisted Delivery

12) Previous delivery:

a) Previous episiotomy
b) None

OBSTETRICAL VARIABLES FOR ASSESSMENT OF EPISIOTOMY

13) Type of episiotomy

a) Median
b) Lateral
c) Mediolateral
d) 'J' shaped

14) Length of episiotomy wound

a) 3- 4 cm
b) 5- 6 cm
c) 7- 8 cm

15) Number of episiotomy suture

a) 4 to 5
b) 6 to 7
c) 8 to 9

16) Indications for Episiotomy

a) Rigid perineum
b) Anticipating perineal tear
c) Macrosomic baby
d) Previous perineal surgery

17) Frequency of self perineal care

a) After each urination and defecation
b) Once in daily
c) Twice in daily
d) Thrice in daily
e) More than thrice

18) Did you change the position frequently

a) Yes
b) No

19) Did you receiving any analgesic drugs for episiotomy pain

a) Yes
b) No

If yes, mention the drug name and frequency

20) How many hours once changing the perineal pad

a) 4 hours once
b) 6 hours once
c) 8 hours once
d) More than 8 hours

INVESTIGATIONS

21) Vital signs:

- Temperature:
- Pulse:
- Respiration:
- Blood pressure:

22) Haemoglobin level:

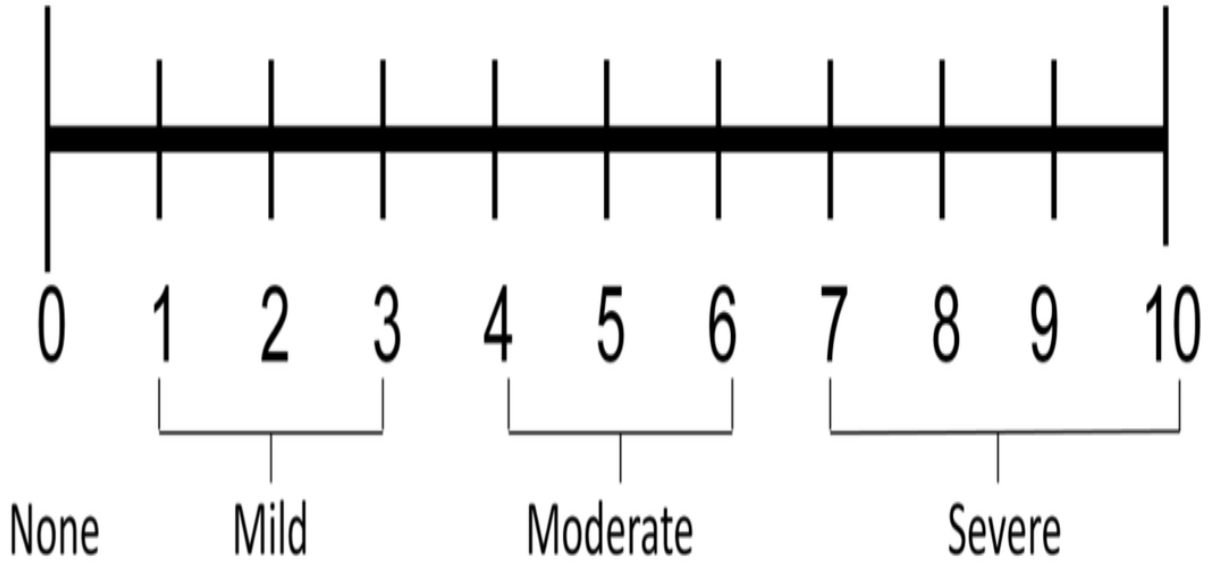
23) WBC Count:

24) Blood glucose level:

25) BMI:

SECTION – B

NUMERICAL PAIN RATING SCALE



SECTION – B: ASSESSMENT OF PAIN AND ITS INTERFERENCE ON THE DAILY ACTIVITIES

ACTIVITIES	SCORE
Walking ✓ After 2 hours ✓ 24 hours ✓ 48 hours ✓ 72 hours **Sitting** ✓ After 2 hours ✓ 24 hours ✓ 48 hours ✓ 72 hours **Changing position** ✓ After 2 hours ✓ 24 hours ✓ 48 hours ✓ 72 hours **Urination** ✓ After 2 hours ✓ 24 hours ✓ 48 hours ✓ 72 hours **Defecation** ✓ After 2 hours ✓ 24 hours ✓ 48 hours ✓ 72 hours	

NUMERICAL PAIN RATING SCALE SCORE INTERPRETATION

- Pain score 0 – No Pain
- Pain Score 1 to 3 – Mild Pain
- Pain Score 4 to 6 – Moderate Pain
- Pain Score 7 to 10 – Severe Pain

SECTION - C

REEDA SCALE

Points	Redness	Oedema	Ecchymosis	Discharge	Approximation
0	None	None	None	None	Close
1	Within 0.25 cm of the incision bilaterally	Perineal, less than 1 cm from incision	Within 0.25 cm bilaterally or 0.5 cm unilaterally	Serum	Skin separation 3 mm or less
2	Within 0.5 cm of the incision bilaterally	Perineal and/or between 1 to 2 cm from the incision	Between 0.25 cm to 1 cm bilaterally or between 0.5 to 2 cm unilaterally	Serosan-guinous	Skin and subcutaneous fat separation
3	Beyond 0.5 cm of the incision bilaterally	Perineal and/or vulvar, greater than 2 cm from incision	Greater than 1 cm bilaterally or 2 cm unilaterally	Bloody, purulent	Skin, subcutaneous fat and fascial layer separation
Score					
				Total	

SECTION – C: ASSESSMENT OF EPISIOTOMY WOUND HEALING

Parameters	Findings	Pre Test {2 Hrs}	Post Test		
Redness	None Within 0.25cm of the incision Bilaterally Within 0.50cm of the incision Bilaterally Beyond 0.50cm of the incision Bilaterally		**24 Hrs**	**48 Hrs**	**72 Hrs**
Edema	None Perineal , <1cm from the incision Perineal and / or vulval, 1-2cm from the incision Perineal and / or vulval, >2cm from the incision				
Ecchymosis	None Within 0.25cm bilaterally or 0.5cm unilaterally Between 0.25cm to 1cm bilaterally or Between 0.5cm to 2cm unilaterally >1cm bilaterally or >2cm unilaterally				
Discharge	None Serum Serosanguinous Bloody , purulent				
Approximation	Closed Skin separation < = 3mm Skin and subcutaneous fat separation Skin, subcutaneous fat and facial layer separation				

REEDA SCALE SCORE INTERPRETATION

- Score 0 – Adequate Wound Healing
- Score 1 to 5 – Moderate Wound Healing
- Score 6 to 10 – Mild Wound Healing
- Score 11 to 15 – Poor Wound Healing

ANNEXURE V

PROTOCOL

FOR POVIDONE-IODINE AND LAVENDER OIL SITZBATH

DEFINITION:

It is an effective method of applying moist heat to the perineum, it provides comfort, promotes healing and reduces the incidence of infection.

PURPOSE:

- To provide comfort
- To prevent infection
- To promote relaxation
- To reduce pain and promote wound healing
- To reduce hospital stay

EQUIPMENT:

- Sterile sitzbath basin
- Lotion thermometer
- Jug 1(for taking hot water)
- Povidone-Iodine solution
- Lavender oil solution
- Blanket

INTERVENTIONS:

- Explain the procedure and its purpose to the sample
- Arrange the articles
- Provide privacy
- Wash the hands

- Pour the 4 litres of clean hot water into the basin (Fill one third) and check the temperature of the water by lotion thermometer. The temperature should be 105^{o}F to 110^{0}F
- Then add the 10% of Povidone-Iodine solution 5-6 drops into the basin in experimental group I and in experimental group II add commercially prepared Lavender oil solution 5-6 drops in to the basin
- Place the sitzbath basin on toilet commode
- Instruct the mother to empty her bladder
- Ask the mother to remove her dressing and wash the perineal area front to back
- Assist the mother to immerse the perineal area into the basin for 20 minutes duration. After 20 minutes help the mothers to get out of the basin.
- Wrap a blanket around the shoulders
- Do not leave the mother alone. Dry the area and assist in applying clean perineal pad
- Then assist the mother to back to the bed and ask for any complaints to the mother
- If the mother complaints of fainting or weakness, assist her out of bath , dry her perineal area and allow to lie flat in the bed, until normal circulation re-established
- Clean the basin and sent it for sterilization for next use
- Replace all articles
- Wash hands
- This procedure can be done 2 times a day (morning and evening) with 12 hours interval till discharge
- Episiotomy pain level and wound healing was assessed every 24 hours, 48 hours and 72 hours.

Documentation

- ❑ Length of the time of application
- ❑ Type of sitzbath
- ❑ Comfort of the sample
- ❑ Condition and appearance of pain level and wound healing through Numerical pain rating scale and REEDA scale.

ANNEXURE-VI

Master coding sheet

Experimental group I (Povidone Iodine)

S.no	Age	Education	Occupation	Marital status	type of family	family income	Area	Obstetrical score	Medical pblms	Mode of delivery	Previous delivery	Type of episiotomy	Length	Number	Indications	Frequency	Position	analgesic	Perineal pad	Vitals	Hb	WBC	Glucose	BMI
1	2	3	1	1	1	2	2	1	2	3	2	3	3	2	2	4	1	1	2	1	2	1	2	2
2	1	1	1	1	1	1	2	1	2	3	2	3	3	2	2	4	1	1	3	1	2	2	2	1
3	2	3	1	1	1	2	2	1	2	1	2	3	2	1	1	4	1	1	3	1	1	1	2	1
4	1	2	1	1	1	3	1	1	2	3	2	3	3	2	2	4	1	1	3	1	2	3	2	1
5	2	3	2	1	1	2	2	1	2	3	2	3	3	2	3	1	1	1	3	1	2	2	2	2
6	2	1	1	1	1	1	2	1	2	1	2	3	2	1	2	4	1	1	3	1	1	1	2	2
7	3	3	1	1	1	2	2	2	2	1	1	3	1	1	2	1	2	1	2	1	1	1	2	1
8	1	2	1	1	2	1	2	1	2	1	2	3	1	1	1	1	2	1	2	1	1	1	2	1
9	3	4	2	1	1	3	1	1	2	1	2	3	1	1	1	4	2	1	3	1	2	2	2	1
10	1	1	2	1	1	1	2	1	2	1	2	3	1	1	2	4	2	1	3	1	1	1	2	1
11	3	3	1	1	1	2	2	1	2	1	2	3	1	1	2	1	2	1	2	1	1	1	2	1
12	2	3	2	1	1	2	2	1	2	3	2	3	2	2	3	1	2	1	2	1	1	2	2	3
13	2	3	1	1	1	2	2	1	2	1	2	3	1	1	1	1	2	1	3	1	1	2	2	2
14	2	2	1	1	1	2	1	2	2	3	2	3	2	2	2	4	2	1	3	1	1	1	2	1
15	2	1	1	1	1	1	2	1	2	3	2	3	2	2	2	4	2	1	3	1	1	1	2	1
16	1	3	1	1	1	2	1	1	2	1	2	3	1	1	1	1	2	1	2	1	2	2	2	1
17	3	3	2	1	1	3	1	2	2	3	1	3	2	2	3	4	1	1	2	1	2	2	2	2
18	3	3	2	1	2	2	2	2	2	1	1	3	1	1	1	1	2	1	2	1	1	2	2	1
19	1	2	1	1	1	1	2	1	2	1	2	3	1	1	2	5	2	1	4	1	1	1	2	1
20	2	3	1	1	1	2	2	1	2	1	2	3	1	1	1	1	1	1	4	1	1	1	2	1
21	3	4	1	1	1	3	1	2	2	3	1	3	2	2	3	5	2	1	2	1	1	2	2	2
22	2	3	2	1	1	2	2	1	2	1	2	3	1	1	2	1	2	1	4	1	2	2	2	2
23	3	4	2	1	1	3	1	1	2	1	1	3	2	1	1	5	1	1	3	1	2	2	2	2
24	1	1	1	1	1	1	2	1	2	3	2	3	3	2	2	5	2	1	4	1	1	1	3	1
25	3	3	2	1	2	3	1	1	2	1	2	3	2	1	1	5	2	1	4	1	2	2	3	2

Experimental Group II (Lavender oil)

1	2	3	1	1	1	2	2	2	2	1	1	3	2	1	1	4	1	1	3	1	2	1	2	1
2	2	3	2	1	1	3	1	1	2	1	2	3	2	1	1	4	1	1	3	1	1	1	2	1
3	2	3	1	1	1	2	1	2	2	1	1	3	2	1	1	1	1	1	3	1	2	1	2	2
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